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CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT

ADDRESSES AND ORIGINAL ARTICLES

Treatment of Enlarged Tonsils in Children. By T. B. LAYTON, F.R.C.S. 509
Thoracic Surgery. By H. MORRISTON DAVIES, F.R.C.S.—(II.) Collapse Therapy 511
An Advance in the Surgery of Cleft Palate. By DAVID LEVI, F.R.C.S.—(*Illustrated*) 515
A Case of Dysinsulinism. By W. J. GRIFFITHS, Ph.D., and O. L. V. DE WESSELOW, F.R.C.P. With Comment on the Case by Dr. P. J. CAMMIDGE and Dr. E. P. POULTON 519
Sedimentation-rate and Ultimate Prognosis in Tuberculosis. By R. R. TRAIL, M.R.C.P. 522
Case of Streptococcal Meningitis. By J. K. RENNIE, M.D., and W. S. CRAIG, M.B. 524

CLINICAL AND LABORATORY NOTES

Clicking Knee in Childhood. By ERIC I. LLOYD, F.R.C.S. 525
Zygomatic Mastoiditis. By W. S. THACKER NEVILLE, F.R.C.S. 526

MEDICAL SOCIETIES

Royal Society of Medicine: Section of Tropical Medicine: Diagnosis of Chronic Diarrhœas 527
Royal Academy of Medicine in Ireland: Placenta Accreta 528

REVIEWS AND NOTICES OF BOOKS

Pastoral Psychiatry and Mental Health. By J. R. Oliver, M.D. 530
Physical Mechanism of the Human Mind. By A. C. Douglas, M.D. 530
Entstehung, Erkennung, und Behandlung innerer Krankheiten: Pathologische Physiologie. By Prof. L. Krehl 530
Diseases of the Skin. By the late R. W. Mackenna, M.D. Revised by R. M. B. Mackenna, M.D. 530
Classic Descriptions of Disease. By Prof. R. H. Major, M.D. 531
L'année thérapeutique. By Dr. A. Ravina 531
Animal Diseases in South Africa. By Prof. M. W. Henning 531
Early History of the Infant Welfare Movement. By G. F. McCleary, M.D. .. 532
British Journal of Children's Diseases 532

LEADING ARTICLES

SPONTANEOUS HYPOGLYCÆMIA 533
PHARMACY AND POISONS BILL 534
CARRIERS OF ENTERIC 535

ANNOTATIONS

The Hume Lectures 536
Small-pox Problem in Sweden 536
Medical and Dental Registers 537
Production of Quinine 537
Fund for Research Workers 538
The Alps for Children 538
The Law and the Offender 538
Anæsthetics in Brain Surgery 539
Lister to Sharpey 539
Coarctation of the Aorta.. 539
Adherent Placenta 540
Opium Traffic and the Economic Crisis 540

THE DOCTOR'S DAY

XVIII.—The Medical Officer to a Public School 546

THE SERVICES

Director-General, Army Medical Services.—Royal Naval Medical Service.—Royal Army Medical Corps.—Indian Medical Service.—Royal Air Force.—Colonial Medical Service 556

NEW INVENTIONS

A New Pocket CO_2 Snow Outfit. By S. Shone, M.R.C.P.—(*Illustrated*).. 529

SPECIAL ARTICLES

Medical Research Council: Support for Clinical Research 541
Medicine and the Law: Cancer Treatment by Unregistered Practitioner.—Electronic Vibration and Meningitis.—Heart Disease and Workmen's Compensation 543
Research in Veterinary Disease 544
A School of Child Welfare 545
The Royal Society 545
British Health Resorts: Conference at Bath 558

PANEL AND CONTRACT PRACTICE

Temporary Residents.—Road Accidents and the Police 548

CORRESPONDENCE

Early Detection of Malignant Disease (Dr. Charles S. Myers) 549
Dichotomy (Mr. Frank Cook, F.R.C.S., Dr. R. L. Wason) 549
Leith Murray Memorial Fund (Prof. A. Leyland Robinson) 549
Chronic Infection of the Sacro-iliac Joints causing Spondylitis (Drs. S. Gilbert Scott and F. C. Golding) 550
Control of Infections in Children's Wards (Drs. David Nabarro and A. Gordon Signy) 550
Blood Pressure and Cancer (Dr. S. Monckton Copeman) 551
Chloroform Capsules (Mr. L. Carnac Rivett, F.R.C.S.) 551
The Admission of Women to the G.M.C. (Dr. Christine M. Murrell) .. 551

OBITUARY

Edmund Hobhouse, F.R.C.P.—(*With portrait*) 551
Alaric Charles Ballance, M.B. 552

PUBLIC HEALTH SERVICES

Consultants and Specialists at L.C.C. Hospitals 552
Infectious Disease in England and Wales 552

PARLIAMENT

Notes on Current Topics: Housing and Slum Clearance.—Compensation for Road Accidents 553
House of Commons: Physical Fitness and Motor-driving Licences. Abatement of Noise.—Census Returns.—Maternity and Child Welfare.—Reconditioning of Slums. Use of Pensions Hospitals.—Indian Medical Council Bill 554

MEDICAL NEWS

Univ. of Oxford 557
Society of Apothecaries .. 557
Roy. Inst. Public Health 557
Roy. Fac. Phys. and Surg. Glasg. 557
Roy. Coll. Surg. England 557
Univ. of London 557
Royal Microscopical Soc. 557
Irish Med. Schools and Graduates Assoc. 557
French Congress of Therapeutics 557
Dinner to Dr. Edward F. Stephenson 557
New Nurses' Homes 557
Quinquennial Appeal for the London Hospital.... 510
Work of Eye Hospitals ... 518
King Edward's Hospital Fund 548
Income of Patients at Guy's Hospital 556
Post-grad. Course on Venereal Diseases 559

NOTES, COMMENTS, AND ABSTRACTS

Local Authorities and Village Settlements. By J. B. MCDOUGALL, F.R.C.P. 560
Antimony Poisoning from Enamelled Vessels 561
Anger in Children 562

Medical Diary 559
Appointments — Vacancies 562
Births, Marriages, Deaths 562

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ADDRESSES AND ORIGINAL ARTICLES

THE TREATMENT OF ENLARGED TONSILS IN CHILDREN*

BY T. B. LAYTON, D.S.O., M.S. LOND., F.R.C.S. ENG.
SURGEON IN CHARGE OF THE THROAT AND EAR DEPARTMENT, GUY'S HOSPITAL, LONDON

WE may divide enlargement of tonsils into those cases where the increase is a part of an increase of all the lymph tissue of the body and those cases where it is a local manifestation. It is clear that in the former group it is our business to treat the general cause of the general enlargement. I think the commonest condition under which this is found is that described by the late Dr. Eustace Smith [1] as mucous disease of children, but which is now included as a part of the wider problem known as the exudative diathesis.

For the isolated increase of lymphoid tissue in the tonsils the treatment has for many years been operative. Before we discuss the indications for operative treatment let us consider whether there is, as yet, any alternative treatment that will take its place. There is the burning away of the tonsil used by Morell Mackenzie and reintroduced by Irwin Moore. There is the slow destruction by diathermy advocated, in selected cases, by Dan McKenzie, and there is the emptying of the tonsils by the suction method of Waring. All these methods necessitate repeated séances under local anæsthesia or without anæsthesia with the mouth open, and for this reason are unsuitable during childhood. There is the rapid diathermy at a single sitting which is either a modification of technique or, if different in principle, is yet unproven to have fewer disadvantages than operation by other methods. There is the use of X rays and of ultra-violet light which as yet have not been shown to be efficient. When a method has been devised of destroying or removing the tonsil which is as efficient as operation, without there being any increase of risk or unpleasantness, then I am willing to give up operating on children's tonsils. But I maintain that no such substitute for operation has as yet been found.

Reasons for Operation

In effect then we are met here to consider the question of the removal of enlarged tonsils in children. The answer, in my opinion, is that to-day this is only necessary on the rarest occasion. The enlarged tonsils for which the operation of tonsillotomy was devised are now seldom seen, and I remember but one such case in the last five years. This statement may sound sweeping; it is, and it is meant to be. For I wish to sweep away a misunderstanding with regard to the tonsil problem that lies, I believe, at much of the excess of operation that so many deplore.

It comes to this, we have changed our indications for the removal of tonsils without changing our title; and I believe we have not changed our title because the modern concept for removal is not definable in any strict terms, it is not describable by any pretty adjective, and it is incapable of diagnosis in the accepted sense. In other words, it is neither a clinical nor a pathological entity; some even deny, as we shall learn later, that it is an anatomical entity.

Personally I suspect that the condition of "enlarged" tonsils was not as common in the early nineteen hundreds as it was in the 'eighties of the last century; but I am confident that we then saw more cases than we do to-day. If we read the description in Morell Mackenzie's book [2] which was published in 1880 we realise that he is describing a clinical picture that is seldom seen to-day. I need only quote his description of the tonsils to realise this. "The augmentation of volume of the tonsils varies in different cases. They are often the size of a chestnut, but sometimes attain the dimensions of a bantam's egg, and in rare instances they are nearly the size of a hen's egg." The great indication for operation was obstruction to breathing in the faucial region.

This disappearance of the "enlarged tonsils" is not, I believe, the only change that has occurred in the upper respiratory tract during the present century; but the other parts of this subject are not germane to the present discussion.

History of Tonsillotomy

Let us consider the matter from the history of the tonsil operation. Though guillotines were devised in 1827, I do not think the operation was common before the 'nineties. It was then a tonsillotomy performed for the enlarged tonsil with a view to removing the redundant lymph tissue. In the great majority of such cases the operation was efficient, but in a few cases cicatrices around the openings of the crypts led to trouble and in the early years of this century surgeons were having great difficulty in removing such stumps. They therefore decided to remove the tonsil completely in the first instance. Since then there have been two landmarks in the history of tonsillar operative surgery.

The first was when G. E. Waugh,[3] of the Hospital for Sick Children, Great Ormond-street, in 1909 published his technique for removal of the tonsils by dissection. This was a very great advance and has standardised the operation for this country. All surgeons to-day are indebted to Waugh when they set out to dissect a tonsil.

Unfortunately it was attended by two disadvantages. It made the operation easy. Anyone with a good enough pair of hands, who would give up time to practising it, could learn to do it.

The second disadvantage was that too much lymph tissue was removed. The original operation of tonsillotomy was merely for the removal of hypertrophied lymphoid tissue. This idea led to the removal of the lingual prolongation of the tonsils down and even on to the tongue, and an insistence upon the necessity for removing this has always been a tenet of this school. It led to two results: a failure to recognise the implications of the new conception that was then arising with regard to the reason for the removal of tonsils, and a refusal to consider the second landmark of tonsillar operative surgery. This came in 1910, when S. S. Whillis and F. C. Pybus,[4] of Newcastle, published their method of enucleation of the tonsils with the guillotine.

* The opening paper of a discussion at the South-West London Medical Society on Dec. 14th, 1932.

[1] On the Wasting Diseases of Infants and Children. London, 1884, 4th ed., chap. vi.

[2] Diseases of the Nose and Throat. London, 1880, vol. i., pp. 60–69.

[3] THE LANCET, 1909, i., 1314.

[4] Ibid., 1910, ii., 875. At about the same time Sluder of St. Louis, Mo., published a very similar technique. According to our insular custom of ignoring any new thing from home while hailing that from abroad, the method is often called Sluder's although that of Whillis and Pybus is usually employed.

By the old method a few very highly skilled surgeons could enucleate a proportion of tonsils with the guillotine, but were never quite sure of it. By the simple process of turning the guillotine round any average surgeon is able to enucleate the great majority of all tonsils and to know in which cases this is impossible. The method is more difficult to learn than dissection, it is not so showy, it needs as perfect an anæsthesia. By it, however, the tonsils can be removed as completely and more cleanly than by dissection. It does not, however, remove the lingual prolongation; but with the modern conception for the removal of tonsils not only is this not required, it is definitely considered an unnecessary interference.

I do not propose to discuss the two methods, but want to point out that they put in the hands of surgeons of different frames of mind methods for complete removal of the tonsils, and from that time they began to operate on younger and younger children and the number of operations insensibly went up until in 1914 it was, in my opinion, time "to stay our hands." [5]

The Tonsils as a Source of Sepsis

Why then do we remove tonsils to-day? Not because there is excess of lymphoid tissue but because the tonsils are "a source of sepsis." We postulate that there are living in the tonsil organisms harmful to the individual. It is not a clinical entity that can be diagnosed with accuracy, but a balance of probabilities. It is not a pathological entity, for the organisms present are various ones and cultivation can only show that any special organism was there at that moment. But it is an anatomical entity because it is at the bottom of the crypts that the source of sepsis lies, and removal of anything beyond the tonsil will have no advantage.

What are the criteria upon which you decide that tonsils are a source of sepsis? The criteria are two: the history of the case and the appearance of the tonsil. The history of the case is far more important than appearance of the tonsil. In 1912 Hajek of Vienna was teaching that if a person has three attacks of follicular tonsillitis in the year or two, with joint pains, the tonsils should come out. The older I get the more I am impressed by that teaching. With those cases of recurring follicular tonsillitis you are almost certain to get improvement from the removal of tonsils. When you do not get that history you are never certain that the desired improvement is going to come about. In my opinion children under the age of 5, 6, 7, or 8 should not have their tonsils removed if it can possibly be helped. They do not get acute follicular tonsillitis. They get droplet infection which gives them an inflammation of the upper respiratory tract and the tonsil takes a part in that infection. I do not think there is any doubt that when the tonsil takes its part in resisting that infection it is one of the most important factors in such resistance. I look upon the lymphoid tissue of the upper respiratory tract as one of the most important factors in enabling the child to develop its acquired immunity as distinct from the heredity immunity that it has when it is born. K. H. Digby [6] believes that the lymphoid tissue of the upper respiratory tract and particularly the tonsillar tissue actually makes the antibodies which cause that immunity. Practically it does not matter whether the tonsils are at that age simply filters to hold up the organisms or whether they are actually factories for the production of immune bodies, the result is the same; that they should be left alone. Clinical medicine fits in with theory in that acute follicular tonsillitis rarely occurs in small children.

There comes a time when instead of those tonsils resisting the invasion from without, the organisms have become settled in the bottom of the crypts and are themselves causing trouble. That is what we mean by the statement that the tonsils are "a source of sepsis." It is perfectly true that organisms may reside there and hæmatogenous invasions occur without local reaction, but in my opinion they very seldom do. Therefore, up to the age of 5, 6, 7, or 8 they should not be removed except on those rare occasions in which there is that history of recurring acute follicular tonsillitis.

What then is the best age of selection for that operation? I think the years between 12 and 15. By that time the lymphoid tissue of the tonsil has ceased to have any particular function. The child has developed its acquired immunity and the lymphoid tissue is not absolutely necessary to it as it was to the small child, and I find, personally, that the best results do come at about that age. I think the first two of these years are the better in those that leave school at 14, as once they have left school it is difficult for them to be able to get the time off from their work; but when the child remains at school until 15 or 16 the two latter are the years of selection. There are, however, a definite number of cases in which operation is indicated at the ages of 9, 10, and 11.

Conclusion

We may sum up thus. I do not believe that there is as yet any local treatment of the tonsils that can compare with operative surgery. There are two schools of operative surgery. It is no good trying to persuade the enthusiastic guillotinist that the dissection method is better. Contrariwise it is no good trying to persuade the dissection enthusiast to give up his method and take to the guillotine, no matter how perfect the operation may be. Size is no indication for removing tonsils to-day. The great indication is the history of recurring follicular tonsillitis, and this is even more important than any appearance of the tonsil. Children need lymphoid tissue in their respiratory tracts, and they do not get follicular tonsillitis in the earlier years of life. Therefore, operations on a child up to 5, 6, 7, and 8 should not be done unless it can possibly be helped and the need for it can be proved up to the hilt. After that age you come to the period where operative treatment on tonsils is a practical problem, but I think that the best results come after the age of 12 rather than before.

[5] Tonsils and Adenoids in Children—A Plea for Fewer Operations, Transactions of the Medical Society of London, 1913–14, xxxvii., 244.

[6] Immunity in Health, London, 1919.

QUINQUENNIAL APPEAL FOR THE LONDON HOSPITAL.—Sir William Goschen, who succeeded the late Lord Knutsford as chairman, is making his first quinquennial appeal for the London Hospital. He points out that the cost of maintenance is £240,000 a year, but that the income always falls short, and that the hospital looks to the quinquennial appeal to establish an equilibrium. He computes that £200,000 of additional money will be required to maintain the institution for the next five years "and to keep abreast of the continuous developments of medicine and surgery." Last year there were 14,634 in-patients, while out-patients made 501,408 attendances.

THORACIC SURGERY

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LECTURE II.—COLLAPSE THERAPY *

Under the term "lung collapse therapy" are included all those methods whereby a collapse of the whole or a part of the lung is produced in order to arrest or heal disease. The most generally used of these methods is artificial pneumothorax, first suggested by Carson of Liverpool in 1822, but not put into actual practice till 1888 by Forlanini. Prior even to this, in 1885, de Cérenville attempted a very limited thoracoplastic operation in an endeavour to arrest hæmorrhage. Thoracoplasty did not, however, become a recognised stereotyped operation till 1911; though Spengler, in 1890, coined the term "extrapleural thoracoplasty" for his rib-resection operation through a periscapular incision.

"Lung collapse therapy" includes also phrenicectomy and phrenic evulsion; operations which have become rapidly and increasingly popular since the variations in the anatomy of the phrenic nerve and the importance of the accessory phrenic were made clear by Felix in 1922.

Oleothorax, as a means of maintaining collapse of the lung is of even more recent date, and the appreciation of its value is due largely to the pioneer work of Bernou. He, however, was anticipated by de Carle Woodcock, who, as early as 1912, used paraffin oil and air for maintaining lung collapse.

Extrapleural pneumolysis, which is the freeing of the lung together with the parietal pleura from the chest wall in order to obtain a localised collapse, was first tried by Tuffier in 1892. It was not a success, because he relied on the air enclosed in the space to maintain the collapse. In 1910 he obtained satisfactory results by filling the space with fat. Three years later Baer tried paraffin as a filling. It is only recently that, with improved technique, the operation has begun to be regarded with favour by some surgeons.

Yet another operation which is being tried out is that of scalenectomy with division of the first rib, in an endeavour to supplement the effect of hemidiaphragmatic paralysis on the apex.

While there are other methods of producing lung collapse, these are the principal ones.

Objects of Lung Collapse

The most important of the benefits gained by collapsing a diseased lung is the obliteration of cavities, whether these are in the lung substance as in the case of tuberculous cavities and of abscess, or are dilatations of bronchi and bronchioles as in bronchiectasis. Collapse prevents the retention of secretions and the absorption of toxins. This is supplemented by the stasis of the blood and lymph circulations, which reduce absorption and the rate of the circulation of the toxins.

As a result of the lung collapse there is immobilisation of that organ, or a general or local diminution of movement: a state of rest which is particularly valuable in the treatment of tuberculosis. Yet another benefit is the reduction in the size of the lung; this allows of the necessary contraction of the pathological fibrous tissue, which is otherwise kept in a state of tension and therefore of chronic irritation.

It is possible here to give the general indications only for collapse therapy. When a case of pulmonary tuberculosis has been progressing for a certain length of time, mechanical changes develop. There is progressive fibrosis, there is rigidity, thickening, and dilatation of the bronchial tubes, and there is the formation of cavities in the lung substance. These changes can be satisfactorily compensated by the efforts of the body if the disease is arrested in the earlier stages of their development. Once, however, the mechanical changes are established, some form of collapse therapy is necessary if the cavities and other spaces are to be obliterated, and the strain of the contracting, pathological fibrous tissue relaxed. The presence of cavities, whether active and secreting or dry, should always be an indication for collapse therapy, provided there are no contra-indications.

Collapse therapy should be attempted, the condition of the opposite lung permitting, in every case of chronic or subacute pulmonary tuberculosis which is stationary but not healed, or which is progressing despite sanatorium régime; it is indicated even in a few cases of acute infection; it should be attempted also in every case of progressive multilobar, but mainly unilateral bronchiectasis, and in certain cases of lung abscess. Further, collapse therapy is indicated in all cases of hæmoptysis which is endangering life or which is repeated or is persistent.

Collapse therapy must also be considered in connexion with many cases of pulmonary tuberculosis in which it is not necessarily essential in order to save life, and in which sanatorium régime may quite possibly arrest the disease. It must be remembered that many patients, once they leave the sanatorium, cannot continue to lead the sheltered life they have experienced there. Their home conditions may be unfavourable; they may have to return to work before the healing processes have consolidated; the work and climate may be unsuitable. For others the time factor is of immense importance, and it is necessary to return to work or to the family free from infection, and at the earliest moment possible. For yet others, the threshold of resistance is so low that a relapse occurs on the least variation from the strictest routine.

Operations Causing Collapse

The various methods of collapse therapy differ greatly in certain important general principles. By some of the methods, such as phrenicectomy and thoracoplasty, the diminution in the lung volume is produced by a process of collapse only, and the collapse is obtained by a readjustment of the surrounding walls. By others no change is produced in these walls, but the alteration in lung volume is effected by the introduction of a foreign body. Examples of this are artificial pneumothorax, oleothorax, and extrapleural pneumolysis. Of these, the last two produce their result by a compression force. With artificial pneumothorax the effect is by collapse, only when there are no adhesions and no extensive consolidation or dense fibrotic changes in the lung; otherwise, in addition to the collapse, there is often some compression force used.

The diminution of the lung volume by collapse is always preferable to that produced by compression. So long as a compression force is exerted there is a danger of complications. When, further, the

* The second George Haliburton Hume lecture for 1933, delivered before the Newcastle-upon-Tyne and Northern Counties Medical Society on Feb. 9th. Lecture I. appeared in our last issue.

compression is exerted by a foreign body there is the added danger from the irritation of this foreign body, which may ulcerate through into the lung substance, causing a pleuro-pulmonary fistula. There is also the increased risk of an immediate reaction of the pleural membranes until such time as they acquire tolerance.

With an artificial pneumothorax the irritation of the foreign body, air, is minimal, except occasionally at the induction. If it is done in a case free from adhesions, and in which collapse only is needed, complications, though they may occur, are minimal. They are far more likely to develop if the air is used to compress the lung, and if a stretching force is exerted on the adhesions when present.

The coexistence of a foreign body and of a compression force is particularly exemplified in treatment by oleothorax and extrapleural pneumolysis. The irritation from the foreign body may cause disturbance from the onset, whilst the combination of a foreign substance, and the compression exerted by it, is a source of anxiety which persists indefinitely. With thoracoplasty, on the other hand, the collapse, being produced by a readjustment of the surrounding walls, causes no anxiety once the immediate dangers of the operation are passed. The operation of phrenicectomy is a very minor one in comparison, but the same applies to this also.

ARTIFICIAL PNEUMOTHORAX

It is possible now to consider in greater detail the various methods available for collapse therapy. Except for the operation of phrenicectomy, which can at best effect a partial diminution only of the lung volume, artificial pneumothorax is the simplest of all the methods. It has, moreover, the great advantage that it does not need the surgical training and experience required by all the other procedures. In the absence of pleural adhesions the collapse obtained by artificial pneumothorax is the most complete obtainable by any method. The collapse is not permanent; as the gas is absorbed the lung re-expands. This has the disadvantage that refills are necessary, at first at short intervals but with the passage of months at longer intervals. Another disadvantage is that the constant variability in the degree of collapse allows a repeated partial reopening of cavities. There is, on the other hand, the great advantage that at any time, should it be necessary because of the extension of disease in the opposite lung in cases of pulmonary tuberculosis, partial or complete re-expansion of the lung is possible.

For cases of bronchiectasis involving the larger bronchial tubes, the complete collapse which is possible by artificial pneumothorax is more successful than the collapse obtained by thoracoplasty, unless extensive and multiple operations are done; but for bronchiectasis which involves the smaller bronchi and bronchioles, and for those long-standing cases of pulmonary tuberculosis which are unilateral and have extensive secondary mechanical changes, the permanence of the collapse by thoracoplasty is preferable. Greater initial risks are run, but after that the patient is free from the constant incubus of recurring treatment, the possibility of complications and of the lung re-expanding despite all efforts to maintain the collapse.

The amount of tuberculous disease, either active or healed, which can be present in the contralateral lung and yet permits of collapsing the one lung by artificial pneumothorax, is considerable in selected cases. Massive hilum infection is a contra-indication, but scattered foci or a localised partial lobar lesion is not. In these cases it is often not wise to attempt a complete collapse of the lung.

When the disease is localised to a lobe, advantage can be taken of the contracting force of the pathological fibrous tissue to maintain a localised or selective collapse of the affected lobe. This is particularly advantageous when a bilateral simultaneous collapse by artificial pneumothorax is indicated.

By artificial pneumothorax it is possible to do a complete collapse, a generalised partial collapse, either intentionally or because limited by adhesions, a localised or selective collapse, or a bilateral partial collapse; it is also possible to influence a lesion, such as a cavity which is responsible for hæmoptysis, by a contralateral collapse. In doing this, advantage is taken of the mobile mediastinum which enables the variations in intrapleural pressure on the one side to influence also the pressures on the opposite side.

OLEOTHORAX

The chief use of oils for the production of an oleothorax is in the treatment of effusions, especially tuberculous ones and those complicating artificial pneumothorax. The oil used in these cases is olive oil with 5 per cent. gomenol. Its value lies in its antiseptic property, both olive oil and gomenol being lethal to tubercle bacilli and to pyogenic organisms. The oil and gomenol are, however, foreign bodies and, the gomenol especially, are apt to produce big reactions unless exhibited with the greatest caution until the membranes have acquired tolerance. The tolerance or intolerance must be tested by a maximum preliminary dose of 5 c.cm. only. Subsequent injections depend on the response to the first dose. Olive oil-gomenol is gradually absorbed. This is advantageous as it enables fresh quantities of the oil and gomenol to be introduced. In the presence of pus the oil becomes saponified, and in this state mixes much more intimately with the effusion.

The preliminary step in the treatment of a tuberculous pyothorax is to aspirate the effusion, with air replacement if large, and to adjust the intrapleural pressures. Five cubic centimetres of olive oil-gomenol are then run in. If the reaction is slight 30 c.cm. can be introduced at the next aspiration, and as much as 100 c.cm. at the third. The object is not to fill the pleural cavity with olive oil-gomenol but, by repeated aspiration, if necessary, and replacing with 200 or 300 c.cm. of the oil, to sterilise the cavity and arrest the recurrence of the effusion and the toxic state produced by the absorption therefrom.

Oil and gomenol are also used in cases of artificial pneumothorax either to supplement the collapse by the weight of oil, in the attempt to arrest the progressive re-expansion of the lung, or to replace the air to avoid the frequency of refills. For this purpose some use olive oil with a smaller percentage of gomenol, others, myself included, prefer paraffin with 1 per cent. gomenol. This is very slowly absorbed, but at the start is much more irritating. The maximum dose is 2 c.cm., and the increments are double the preceding amount.

Whilst the use of olive oil-gomenol is a most valuable procedure in the treatment of effusions and, if correctly used, without danger, the use of paraffin-gomenol as an accessory to or a substitute for artificial pneumothorax carries very considerable risks. These risks can, however, be controlled in certain cases; in those wherein it cannot, the paraffin-gomenol must be abandoned. It is so rarely that paraffin-gomenol can be used with safety to increase the compression beyond that possible by air that the attempt is hardly ever justifiable. The substitution of an oleo-

for a pneumo-thorax is indicated only when there is great difficulty in arranging for the maintenance of refills with air. If the mediastinum is rigid and the oil will be enclosed within unyielding walls there is a considerable possibility that, sooner or later, ulceration will occur at some point on the surface of the lung, and that, a broncho-pleural fistula forming, the oil will escape. Even though the oil is at once withdrawn, infection will pass from the lung into the pleural cavity and an empyema result. This danger of perforation does not appear to exist when there is a mobile mediastinum, and the patients gain considerably from the constancy of the collapse maintained by the oil. Oleothorax is, in my opinion, contra-indicated as a possible means of arresting a progressive, adherent pleurisy.

THORACOPLASTY

Thoracoplasty is the alternative to pneumothorax when a generalised or an extensive localised collapse of the lung is required, and adhesions prevent the separation of the pleural membranes by air. Its use in tuberculous cases must be most strictly limited to those cases in which there is no active disease, and no extensive fibrotic change in the opposite lung.

The paravertebral, extrapleural thoracoplasty consists in the resection of the posterior ends of the ribs right back to the transverse processes of the vertebræ. The standard ten-rib thoracoplasty, which was done whatever the extent of the lesion, is now modified to suit the requirements of the individual case. If the lesion is confined to the upper lobe, an eight-rib operation will suffice; for apical lesions a six-rib or even a five- or four-rib thoracoplasty may produce the necessary collapse. This is a big advance as, with the lesser number of ribs which need resecting, there is a larger proportion of cases in which the operation can be done in one stage; there is also less shock and considerably less risk of pneumonic complications. The reduction in the number of ribs resected makes more feasible and safer yet another modification which is of great practical value. A much greater length of each rib can be removed in the case of large thin-wall or smaller thick-wall cavities. This produces better mobilisation, and therefore a more complete collapse of the affected part of the lung.

In my opinion the operation of thoracoplasty offers less risk to the patient than does the endeavour to convert a pneumothorax collapse, which is incomplete and inefficient owing to multiple adhesions, into a complete one by intrapleural pneumolysis, especially when the adhesions are broad and comparatively sessile.

The very successful results which are obtained by the local thoracoplastic operations makes this operation unquestionably superior to that of extrapleural pneumolysis, which necessitates the introduction of a foreign body and the production of a compression force instead of a collapse.

Most surgeons combine gas-and-oxygen with the local and regional anæsthesia. My own technique is to give nembutal, to do a complete local and regional anæsthetisation of the area, and then to keep the patient unconscious with chloroform vapour; rarely more than two drachms are needed. With this technique there is surprisingly little shock.

The deformity resulting from the operation is small, and, when the patient is dressed, is unnoticeable. The greatest sinking in is in the axilla and at the back. There is no dropping of the shoulder. The prevention of stoop and of obvious scoliosis rest entirely with the patient, and with care need not occur. There is no loss of movement of the arms, and the use of them is limited by the disease only.

The presence of contralateral activity is usually regarded as a definite contra-indication to thoracoplasty. In cases of serious hæmoptysis a localised area of active tuberculous disease in the opposite lung, which is non-progressive, is often a less danger to the patient than is the thoracoplastic operation to anticipate a fatal hæmorrhage. Lately, bilateral localised thoracoplastic operations for bilateral apical lesions have been done with success.

The mortality of the complete thoracoplasty is between 4 and 5 per cent. in selected cases. This is not high considering the seriousness of the alternative if the operation is not done. Of the four cases for which I did a one-stage 10-rib thoracoplasty in 1922 when I again started operating, all especially selected chronic but progressive fibrotic cases, three are still alive and working. The fourth died within a year from tuberculous enteritis.

PHRENICECTOMY

Phrenicectomy has come into vogue because of the simplicity of the operation and the great benefits which may be expected of it in many types of case. It is an expectation not always realised because there are so many factors which influence the result, and those cannot always be correctly gauged. In some cases it is possible to be almost certain of the result of the hemidiaphragmatic paralysis; in others there is considerable uncertainty of success. The operation is justifiable when there is the hope of benefit; should it fail, the worst factor is the disappointment experienced by the patient.

Prior to the researches of Felix on the anatomy of the phrenic and his discovery of the frequency and extent of the variations of the accessory phrenic nerve, the failures due to absence of paralysis of the muscle were so frequent that the gamble entailed was seldom worth the attempt. Our present more exact knowledge and the operations planned to overcome the difficulties ensures the paralysis of the hemidiaphragm in the great majority of cases.

The true phrenic nerve may run a somewhat abnormal course in its relation to the scalenus anticus muscle, but of greater importance are the accessory phrenic bundles. Whilst not always present, there is often one, sometimes two, and on occasion even more separate nerves which course down external to the true phrenic and join it usually shortly after crossing the subclavian vein. The true and accessory phrenics frequently form a loop round the vein, the one crossing in front and the other behind it. Occasionally they loop round the internal mammary vessels. The importance of this when applying traction on the phrenic nerve is obvious.

Destruction of the continuity of the phrenic and accessory phrenic nerves produces paralysis of the corresponding dome of the diaphragm and atrophy of the muscle. The muscle, losing its tone, becomes flaccid and is displaced upwards into the thorax, being pushed up by the intra-abdominal positive pressure and drawn up by the intrathoracic negative pressure. There is frequently a paradoxical movement of the dome. If there is considerable thickening of the pleura and dense basal adhesions, this will greatly limit the displacement.

The benefit derived from hemidiaphragmatic paralysis is twofold. There is the diminution in the hemithorax and corresponding reduction in the lung volume as a result of the rise of the muscle; there is also abolition of the drag on the base of the lung, pleural membranes, and pericardium, as a result of the paralysis. This latter is independent of the extent

of the rise and is shown by the reduction or disappearance of such symptoms as pain, drag, dyspnœa, and tachycardia. The extent of the lung collapse is, however, directly dependent on the height to which the dome rises. This collapse is moreover not necessarily limited to the base, it may exert a marked influence on the apex of the lung, for which reason apical lesions and cavitation are among the indications for phrenicectomy.

Briefly stated, phrenicectomy, in order to paralyse the dome of the diaphragm, is indicated—

(1) In those cases for which artificial pneumothorax has been tried but found impracticable, except for those with large cavities or small but thick-wall ones, and those with considerable bronchial changes for which a more extensive collapse as by thoracoplasty is the alternative.
(2) In a few cases as an alternative to artificial pneumothorax, particularly in those in which there is a moderate-sized lesion only with fibrosis either at the base or the apex.
(3) For basal cases of bronchiectasis in the hope of preventing the necessity for a more extensive operation.
(4) In combination with artificial pneumothorax of the contralateral lung, especially when there is a recent basal lesion.
(5) In cases with hæmoptysis which cannot be controlled by pneumothorax and do not necessarily need, or cannot tolerate, a more extensive collapse.
(6) In association with artificial pneumothorax in order to supplement the basal collapse, or to reduce the size of the hemithorax when the lung is re-expanding according or contrary to plan. Occasionally also to help increase the interval between refills.
(7) For the treatment of certain symptoms such as cough due to irritation of the diaphragm and for the same reason of persistent uncontrollable hiccough. For pain and sensation of drag following on old pleurisy or a post-operative scar (as after basal hydatid or lung abscess). Also for tachycardia due to pericardial adhesions, dyspnœa due to pleural adhesions, and vomiting, when repeatedly associated with coughing.
(8) In association and as a preliminary to partial thoracoplastic operations to assist the lung collapse. But not in association with 10- and 11-rib thoracoplasties, because the resulting complete immobilisation of all the walls produces too pronounced a lymph and blood stasis.
(9) As a prophylactic against the development of bronchiectasis after an unresolved pneumonia, and in all cases with excessive basal fibrosis.

There are two ways of destroying the continuity of the phrenic nerve. The nerve can be evulsed, or a length can be cut away from the main nerve and from all accessory branches.

The object when doing a phrenic evulsion is to pluck the nerve out from its attachment to the diaphragm or to remove at least 11 cm. of its length. By so doing, all accessory branches are disrupted from the main trunk. It is only in the most exceptional case that an accessory nerve joins up with the main trunk at a point distal to 10 cm. from the point at which the nerve is found in the neck and cut. Evulsion has certain disadvantages, some of them grave. When the nerve is adherent, it is not infrequent for it to break at a point 7 or 8 cm. from the point of division. It is then not practical and highly dangerous to attempt to find the distal end. If the nerve and a stout accessory branch form a loop round the subclavian vein or the internal mammary vessels, there is the risk that these may be torn, as has happened, with fatal results. The nerve may be adherent to the mediastinal or visceral pleura, and, when ruthlessly evulsed, may tear the membrane and cause a spontaneous pneumothorax, or expose the mediastinal areolar tissue and lead to a serious or fatal mediastinal emphysema. The operation of evulsion, moreover, is always painful when the nerve is adherent.

The radical operation necessitates a slightly longer incision so that, after a length of the phrenic nerve has been cut away, the brachial plexus can be freely exposed, all accessory branches can be found, and lengths of these, and of the nerve to the subclavius, can be excised.

In either case the operation is done under local anæsthesia. The usual incision is a transverse one, but I prefer an oblique one about 2·5 cm. in length along the posterior border of the sternomastoid muscle, extending down to about 1 cm. above the clavicle.

SCALENECTOMY

After the dome of the diaphragm has been paralysed by phrenicectomy, some compensation for the loss of movement may result from an increase in the action of the intercostal muscles, and it is possible, therefore, that part of the advantage gained is thus later again lost. The action of the scalene muscles is antagonistic to that of the intercostal muscles; these muscles brace the first two ribs against the downward pull of the intercostals. After division of the scalene muscles there is a slight downward action of the upper ribs during inspiration, which is enhanced by division of the first rib. This is the raison d'être of the operation of scalenectomy.

The value of phrenicectomy in producing collapse of the apex of the lung, especially when there is localised fibrosis which assists in this selective collapse, is an accepted fact. An apical lesion, especially if there is a thin-wall cavity, is therefore an indication for hemidiaphragmatic paralysis. It is in this type of case when, particularly, it is felt that the rise of the dome alone will not be sufficient to effect the collapse required to obliterate the cavity that scalenectomy has been tried.

Considerable benefit has undoubtedly been obtained in many cases by the combination of these two methods of collapse, which are obtained by the one operation. The number of cases on which it has been tried is, however, few. In my own 11 cases I find it difficult to decide to what extent the improvement has been due to the phrenicectomy alone, or to the added collapse obtained by the division of the scalene muscles and first rib. My impression is that in some of these cases a part, at any rate, of the benefit must be attributed to the scalenectomy, but that its results are not in any way comparable to a four-rib apical thoracoplasty. In a recent paper L. Fisher reports 31 cases of which 18 had had a phrenicectomy done six months to three years previously without satisfactory result. He reports striking improvement after division of the scalene muscles.

Scalenectomy has the advantage of being an operation which can be done entirely under local anæsthesia, and which produces practically no shock.

Access to the muscles is obtained through an incision 5 cm. long, along the posterior border of the sternomastoid muscle, extending down to the clavicle. The scalenus anticus is first exposed, the phrenic nerve and any accessory branches are excised, the muscle is dissected free at its insertion into the first rib between the subclavian vessels, is detached from the rib, and then 2 cm. of its length are excised. The brachial plexus is drawn inwards, the greatest care being taken not to damage the long thoracic nerve which traverses the scalenus medius muscle. This muscle is traced to its insertion into the neck of the first rib from which it is detached, at first with the knife and then with the raspatory. A length of this muscle also is cut away. The neck of the first rib is now exposed at the bottom of the wound and is freed from its periosteum, bearing in mind the close relationship of the eighth cervical and first dorsal and first intercostal nerves.

EXTRAPLEURAL PNEUMOLYSIS

The importance of treating, the imperative necessity of obliterating, cavities is still unrealised to a grave extent. Every cavity, whether actively secreting or dry, is a menace to the patient. It is estimated that 90 per cent. of cases with cavities die within five years.

Thin-wall cavities will sometimes heal with sanatorium treatment alone. When the walls are fibrosed some form of collapse is essential. The value of artificial pneumothorax and of multiple rib resections has already been discussed. For small apical cavities phrenicectomy alone, or supplemented by scalenectomy, may in some cases suffice. The operation of choice for apical cavities, in unilateral cases, is unquestionably, in my opinion, the localised apical thoracoplasty with extensive resection of the upper ribs, made possible by stripping the origin of the second and third digitations of the serratus magnus muscle off the second rib.

This, however, is not a practicable operation when there is active disease in the contralateral lung, nor when the patient is over 45 years of age. It is for these cases essentially that the operation of extrapleural pneumolysis must be considered. By this operation the lung is collapsed together with the parietal pleura; the space thus formed between the membrane and the ribs being filled with a foreign substance. That most frequently used is paraffin, but occasionally living grafts of the pectoralis muscle or of the breast are made use of. Whilst less irritating than paraffin, they do not maintain their volume. Paraffin may cause ulceration through the fused pleural membranes into the lung cavity at any time during the succeeding months or even years. Should this happen, the paraffin must be removed and the wound packed with gauze until the hole becomes filled with granulation tissue.

The insertion of the paraffin wax, which should have a melting point of about 50° C., is best done after resecting a short length of the second rib, supposing a collapse of the apex is required (apicolysis). The posterior layer of the periosteum is divided and then the parietal pleura and lung are stripped off the endothoracic fascia. Great care must be taken that the lung is not torn or the cavity opened.

A paraffin filling is also used as an alternative to a supplementary rib resection after a thoracoplasty, when a sufficient collapse has not been obtained by the original operation.

What Collapse Therapy Can Do

When used in conjunction with sanatorium régime for the treatment of pulmonary tuberculosis, collapse therapy will arrest the disease in a considerable number of cases doomed otherwise to a lingering illness, terminating in death.

The value of surgical treatment is long past the experimental stage. Collapse therapy will save life in many cases, restoring the individual to working capacity. For many it will enable healing to take place, and will shorten the period of treatment; for some it will make life possible among home surroundings, which would otherwise be denied because of the risk of infection; whilst for yet others it will protect or offer greater or a longer period of protection against recurrence. The more drastic forms of collapse therapy in the treatment of pulmonary tuberculosis take a certain toll from individuals who are permanent invalids, but give to the greater number life and a state of health otherwise unobtainable.

This country is still sadly behind America, Scandinavia, and other countries on the continent. Wales and some counties of England and Scotland give their tuberculous patients every modern aid in treatment. It is time that all follow this example, and offer to their patients those opportunities for the restoration of health and the saving of life which are available by collapse therapy.

AN ADVANCE IN THE SURGERY OF CLEFT PALATE *

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About 500 children are born each year in England with either a cleft palate or a hare-lip. In France, Peron [1] reviewed 100,000 births and found that one child in 942 was born with a similar deformity. Davis [2] in America found one malformation in every 915 births. These failures of embryonic fusion occur in connexion with the superior maxilla and may be classified, according to Brophy,[3] into:—

1. *Clefts of the soft palate only.*—The cleft may vary from a bifid uvula to a complete cleft extending through the whole substance of the soft palate. This type occurs in 20·8 per cent. of these malformations, according to Veau's [4] statistics.
2. *Clefts of the soft and hard palate*, which occur in 30·8 per cent. of patients.
3. *Complete unilateral cleft of the palate associated with a hare-lip;* the commonest type of malformation, which accounts for 38·8 per cent. of patients. The cleft of the palate involves the alveolar arch and extends through into the anterior nares. There are many variations of this type of deformity; they depend in the main on the degree of approximation of the cleft hard palate with its fellow of the opposite side.
4. *Complete bilateral cleft palate and double hare-lip;* the rarest type, present in only 9·6 per cent. of patients. Many variations of this type exist. It is essentially a deformity associated with maldevelopment and malposition of the premaxilla, and may or may not be associated with clefts of the hard palate itself.

The clinical manifestations of these conditions—the ugly face, the difficulty in eating, and the poor quality of the speech—are so well known and obvious that they do not warrant further description. In 1861 M. Langenbeck, a German surgeon, described his operation for closure of the gap in cleft palates. The essential steps of this method consist of:—

1. An incision is made in the muco-periosteum of the hard palate internal to the alveolar arches. Care must be taken not to injure the posterior palatine artery.
2. The muco-periosteum is stripped from the hard palate.
3. The internal borders are pared.
4. The buccal mucosa is sutured.

This operation, which has now become one of the classical procedures of surgery, has stood the test of over half a century, and is still the operation performed by many surgeons in England to-day, but it does not give universally satisfactory results. Many have been disappointed at the frequency with which the palate breaks down. Those who have followed their patients through childhood to adult life cannot have failed to be uneasy at the poor functional result, the nasal intonation of the voice, and the inability to pronounce many of the consonants.

Many attempts have been made to supplant Langenbeck's operation, and the names of Brophy and Arbuthnot Lane have already passed into history. Brophy advocated closing the cleft by forced apposition of the superior maxillæ, and substitutes a deformed alveolar arch for a deformed palate. Lane's flap operation was planned without due regard to the blood-supply of the flap and, if the child recovers from the initial severity of this procedure, the flap which forms its new palate nearly always sloughs away. Thus Langenbeck's operation has, until to-day, remained the operation of choice for cleft palate.

* Post-graduate lecture delivered at the Infants Hospital.

VEAU'S OPERATION

Victor Veau has contributed a valuable step to the advance of cleft-palate surgery, and his operations have been performed at the Infants Hospital. In principle, they consist of suture of the nasal mucosa, suture of the muscles of the soft palate, and suture of the buccal mucosa. Referring to these three rows of sutures he states that "La première est utile, la deuxième est indispensable, le troisième est superflue." Veau epithelialises the raw surface of his flaps, and thus reduces cicatricial contraction to a minimum.

FIG. 1.—Section of a cleft soft palate.
A = nasal mucosa; B = palatal muscle; C = buccal mucosa; D = suture. (This and subsequent figures are after V. Veau.)

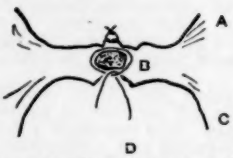

FIG 2.—As above, but suture tied.

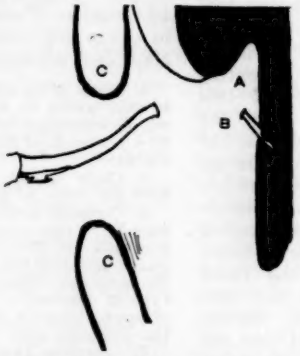

FIG. 3.—Cleft palate with Reverdin needle in place.
A = soft palate; B = Reverdin needle; C = alveolar arches.

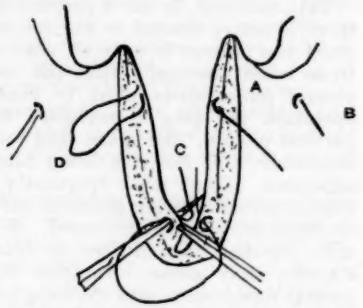

FIG. 5.—Cleft palate. Margins of cleft have been split. Muscle suture placed in right-hand side.
A = soft palate; B = muscle suture in place on right; C = nasal mucosal suture; D = silk loop.

It is our practice at the Infants Hospital, and I think it is an almost universal one, to repair the hare-lip soon after the infant has recovered from the shock of its birth and has become acclimatised to its new surroundings. The practice with regard to the repair of cleft palates varies widely, but the tendency has been to suture these clefts early in the infant's life. Langenbeck's operation was performed when the child reached the age of 2 or 3 years. Now palates are repaired when the infant is ten months to a year old, before it has been taught to speak.

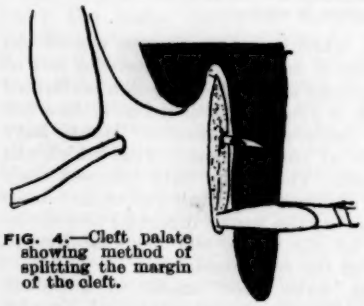

FIG. 4.—Cleft palate showing method of splitting the margin of the cleft.

Veau does not consider it necessary to remove either the tonsils or the adenoids, as he thinks that both these structures fulfil a useful purpose in helping to close the post-nasal space, but if they show signs of infection, as exemplified by enlarged glands at the angle of the jaw or muco-pus in the post-nasal space, then the tonsils should be dissected out and the adenoids curetted. It is our practice here to remove the tonsils in all cases, at least two months before the contemplated attack on the palate. This interval enables the structures operated upon to return to their pristine suppleness. All signs of inflammation in the bed of the tonsil should by then have disappeared. A clean mouth is a very material asset to the suture line in the palate. Any carious teeth must be removed. Nursing plays an important part in the success or failure of the operation. Often the mother makes a most successful nurse, but this depends entirely upon her temperament. In all circumstances the child must be familiar with its surroundings and attendants, and thus must be admitted to the hospital several days before the operation. Operation should if possible be planned to take place in the spring or summer.

Veau has devised four main types of operation, one type for each subdivision into which cleft palates have been classified. Two of these operations will be described in detail.

OPERATION FOR CLEFT SOFT PALATE

The child is given an injection of antiscarlatiniform serum (Dick) and is allowed barley-sugar and glucose before operation; it is neither starved nor purged. Anæsthesia is induced with ethyl chloride, and this is followed by ether. The child is put in the dorsal position with a sandbag under its shoulders and its head extended. Care must be taken not to hyper-extend the head, as this may interfere with respiration. The mouth is kept open by means of a Waugh's gag, and the anæsthetic—oxygen blown through ether—is delivered through a tube placed in one nostril.

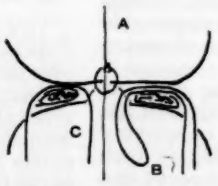

FIG. 6.—Soft palate.
A = Nasal mucosal stitch; B = silk loop; C = catgut muscle suture stage.

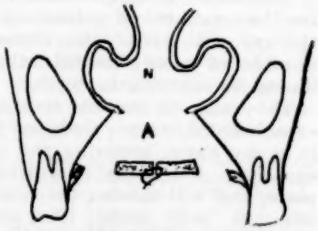

FIG. 7.—Langenbeck's operation. Note dead space A.
N = nose. A = dead space.

The surgeon sits at the head of the table. The aim of the operation is to suture the soft palate in three layers. The first layer is composed of the nasal mucous membrane (Fig. 1); the second is a muscular tension suture (Fig. 2); and the third closes the buccal mucosa.

A curved Reverdin's needle is entered on the buccal surface of the soft palate near the little depression made

FIG. 8.—Veau's operation. Note epithelialisation of superior aspect of flap and obliteration of dead space.
N = nose.

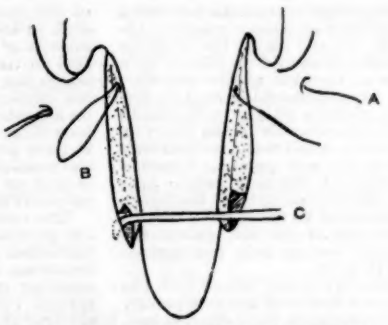

FIG. 9.—A = right half of muscle suture in place; B = silk loop; C = separation of palatal aponeurosis from bone with crochet.

FIG. 10.—Method of separating muscle from posterior surface of hard palate.
P = hard palate.

by the upper end of the anterior pillar of the fauces and the side of the inferior maxilla (Fig. 3). The needle is pushed deep to the muscles of the palate, between them and the nasal mucosa. The index-finger is placed on the nasal aspect of the soft palate to guide the needle point. The point of the needle is brought out on the buccal surface of the palate 1 mm. from its internal free edge. The surgeon must make sure the needle envelops the muscles by palpating its concavity with the index finger which was placed on the posterior surface of the soft palate; if the muscles are superficial to the needle they are readily felt. It may be necessary to make three or four attempts before the needle has been correctly placed. This manœuvre is easier in large muscular palates than in the palates of young infants. The needle must be passed when the soft palate is flaccid. The right suture is easier to pass than the left. Before passing the catgut the edge of the soft palate should be incised. The incision is not a paring operation (Fig. 4). The edges are not cut away and the mucosa is not resected. After the incision has been made the edges of the wound open out and all tissues are thereby conserved. It is my practice to detach the muscular elements of the soft palate from the posterior end of the bone of the hard palate with the crochet. Unless this is done there is an undue amount of tension at the anterior extremity of the wound.

Incision of the uvula is difficult. It is made first while the palate is steadied by the needle, and is then carried up towards the cleft. If the cleft is short the knife may be carried to its summit. If the cleft is a long one it is not wise to incise the edges with the needle in place, as the tissues are fixed by the bone as well. The incision should be confined to the buccal mucosa and a few fibres of the muscle. A piece of wire† without kinks or twists in it is now placed in the eye of the Reverdin needle and drawn into position. Similar measures are carried out on the left side. The only point of difference between the two sides is the manner in which the catgut is passed. On the left side a silk loop is left in place (Fig. 5). The summit of the cleft is now split.

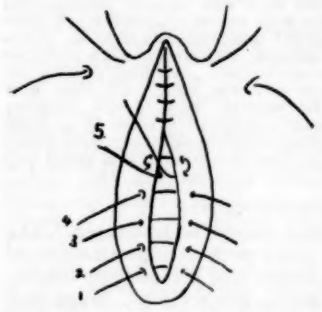

FIG. 11.—Nasal mucosa sutured. Fifth knot to be tied on nasal surface of palate.

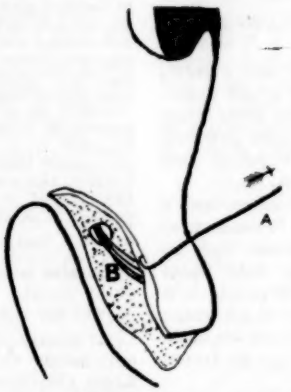

FIG. 12.—Arterial pedicle, B. Hook, A. The pedicle is stretched by pulling the hook inwards and downwards.

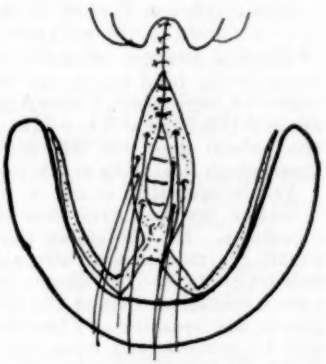

FIG. 13.—Soft palate sutured. Sutures in nasal mucosa before insertion through the palatal flaps.

FIG. 14.—Showing method of passing the suture to hold palatal flap to nasal mucosa.

In clefts of the soft palate the edges tend to come together in front. The crochet is used to pull the buccal edge out and the incision is completed with the knife.

Suture of the nasal mucosa is an important step in the operation. Ophthalmic silkworm gut is used, and the stitches are passed with a Reverdin needle. The silk must be tied on the nasal side of the soft palate, and with this object in view the Reverdin needle is passed threaded. The needle pierces the cut edge of the mucosa at 1 mm. from its free border, and the silk is caught and pulled from the eye of the needle on the nasal side of the palate with a pair of forceps. The knots are tied as shown in the diagram (Fig. 6). It is important when tying the knot to avoid lifting the soft palate by pulling the ends of the silk upwards. In small mouths one thread may be fixed over a finger in the nasopharynx while the other is tightened by a hand outside the mouth. These nasal mucosal sutures are carried back to the base of the uvula. The uvula is difficult to suture. A suture should be placed through its tip. This

† We use No. 00 catgut instead of wire.

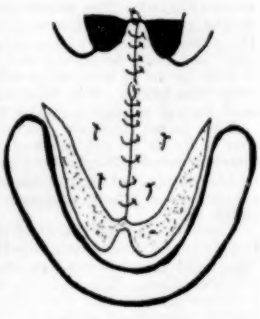

FIG. 15.—The completed palate.

suture is not tied but is used as a retractor, and the remaining sutures are inserted in the posterior or nasal surface of the cleft. Sutures should now be placed along the anterior aspect of the uvula. These sutures should be placed by a needle which takes both edges of the cleft at one thrust.

The *muscular suture* is the most important step in the operation. It surrounds the muscles of the soft palate (Figs. 1 and 2). Many of these muscles lie in the pharynx —e.g., the tensor palati and levator palati muscles—and only their tendons are inserted into the soft palate. Hence a suture of this muscular element in the soft palate does not strangle the muscles but draws some of their tendinous fibres tightly together. It is essential to make quite certain that all the muscles and tendons in the soft palate are encircled by the suture, and the suture does not include either buccal or nasal mucosa (Fig. 1).

One end of the suture is placed in the silk loop, which has already been passed through the left side of the soft palate. Care is taken to make quite certain that the catgut is free, and it is then drawn through the left half of the palate.

The ends of the catgut should now be passed between the buccal mucosa and the muscle, so that the suture may be knotted in the midline to include only the musculature of the palate. This is done by passing the needle through the orifice from which the catgut is projecting and passing it inwards immediately below the buccal mucosa. The needle is withdrawn with a silk loop in it. The catgut is placed in the silk loop and is thus made to encircle the muscles. The same manœuvre is carried out on the opposite side of the palate, and the ends of the catgut are tied as for the first stage of a reef knot. The knot is pulled tightly and tied.

Buccal suture.—When the catgut suture has been tightened the buccal mucosa suture is inserted. Nothing, however, is asked of this suture.

OPERATION FOR CLEFTS OF THE HARD AND SOFT PALATES

The constituents of the soft palate are elastic, those of the hard palate are not. The great drawbacks to Langenbeck's operation are the large dead space A (Fig. 7) which is left, and the manner in which the palatal flaps are left with large exposed raw areas which heal with much cicatrisation.

Veau's operation is not a copy of Langenbeck's operation, for Veau overcomes these two fundamental objections. He obliterates the dead space and he covers the raw area in his palatal flaps with nasal mucosa (Fig. 8). The closure of the soft palate is a suture operation, that of the hard palate is an autoplastic flap operation. These flaps are lined on each side by mucosa, and come together easily in front, but there is a little tension posteriorly.

A technique similar to that previously described is used.

The operator commences by attacking the soft palate. The incisions of the edges of the cleft are carried up to the cleft in the hard palate. As the bone is approached and passed, this procedure becomes progressively more difficult. It is important not to split the mucosa, which is bound down to the underlying bone, so that when an incision is made in it the wound does not gape as the incision in the soft palate does; also the field is obscured by hæmorrhage.

For these reasons it is better to separate the mucosa of the hard palate with the crochet rugine before incising it. The crochet is introduced into the wound at the posterior end of the hard palate and is kept in close apposition to the bone (Fig. 9). The detachment of the mucosa is facilitated by the presence of a few muscle-fibres in the submucosa round the edge of the cleft hard palate (Fig. 10). This muscle of the cleft has been described and emphasised by Veau. As each 5 mm. or so of mucosa is raised by the crochet it is incised with the knife. The mucosa is detached from both nasal and buccal surfaces of the palate.

The nasal mucosa becomes more adherent anteriorly and is liable to get pricked by the crochet. Therefore the crochet must always be kept close to the superior aspect of the palate. The mucosa is stripped by movements of the crochet as a whole and not by the irregular motion of its point alone.

The left edge of the cleft should be incised first and then the right. It is essential for the operator to be ambidextrous. The right hand is used to incise one side and the left hand for the other. The mucosa becomes more adherent to the bone anteriorly, and difficulty may be experienced in making the incision meet round the front edge of the cleft.

Nasal suture.—When the edges of the cleft have been incised and the nasal mucosa has been elevated, the cut edge of the mucosa will be found to overlap the edges of the cleft in the bone by 2 to 3 mm. The sutures of the nasal mucosa of the hard palate are placed so that the knots are tied in the buccal surface, for these sutures act as points to which the palatal flaps are fixed. As a routine four stitches are employed, and are passed with a small curved needle on a holder. The sutures are not tied and the ends are left long (Figs. 11 and 13). The catgut suture in the soft palate is then completed and tied, and a fifth suture, placed in the nasal mucosa at the junction of the hard and soft palate, is tied so that the knot lies on the nasal surface of the palate (Fig. 11).

The operation has been relatively bloodless, but when the palatal flaps are raised hæmorrhage is sharp; it may be controlled by compression of the flap against the bony resistance of the palate. It is useless to attempt to ligate bleeding points. An incision is made round the alveolar margin very near the teeth, starting just posterior to the alveolar process of the superior maxilla and carried forwards external to the posterior palatine foramen. The flap thus delineated is raised from before backwards, care being taken to avoid injury to the vascular pedicle coming from the posterior palatine foramen. Hæmorrhage is severe but should be ignored. The crochet should be passed just external to the vascular pedicle and this pedicle should be elongated by gentle traction (Fig. 12). The pull should be steady and progressive. When this has been done the flap is compressed by means of the ball of the thumb against the hard palate. This pressure should be maintained for half a minute at least, to ensure hæmostasis. The procedure is repeated on the opposite side (Fig. 13).

The flaps are now placed in position by means of the four untied sutures which have been passed through the nasal mucosa. The most posterior of these four nasal sutures is isolated and the ends are passed through the buccal flap of one side behind the arterial pedicle (Fig. 14). The next succeeding suture is fixed in a like manner through the opposite buccal flap. The next suture is passed much more anteriorly through the buccal flap originally treated. Thus each buccal flap has two sutures—an anterior and a posterior —which tie it to the nasal mucosa. All four sutures are placed in position before any are tied. All that now remains is to suture the palatal flaps in the midline. Anteriorly this is very easy; posteriorly there is a little tension, the amount varying with the efficiency with which the arterial pedicles have been elongated. If a small gap persists it is of no very great moment (Fig. 15).

COMPLETED PALATE

Careful after-treatment should be instituted. The child should be kept quiet with a little tincture of opium for the first 24 hours, and glucose and sodium bicarbonate may be given per rectum. Slops and soft foods should be allowed, and after each feed some sterile water should be given. The palate is not inspected until the eighth or tenth day. Small holes in the new suture line should not occasion undue alarm, for they tend to close spontaneously. I have so far been unable to judge the functional result of this procedure as all the infants operated upon have been too young to talk.

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2. Davis, W.: Ann. of Surg., 1924, ii., 363.
3. Brophy, T.: Cleft Lip and Palate, London, 1924.
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WORK OF EYE HOSPITALS.—A number of eye hospitals have recently held their annual meetings. Of the Glasgow Eye Infirmary it was reported that the out-patient department is "tremendously overcrowded," but that an appeal for £25,000 for extensions had produced only £7000, with which it is proposed to do work imperatively necessary.—Last year the Birmingham and Midland Eye Hospital prescribed nearly 10,000 pairs of spectacles. There is "considerable physical and monetary strain," and great need for a scholarship or fund for research to enable younger surgeons "to study at home or abroad, or to investigate some special question in ophthalmology in the laboratory or clinic."—Bristol Eye Dispensary (which is said to be the only institution of the kind open on Sunday) last year treated 1775 new patients.—At Southampton Free Eye Hospital in 1932 there were 377 in-patients and over 9000 out-patients. More than half the cost of running the institution is paid by the patients. The medical staff is asking the committee to consider the desirability of establishing a clinic for the ocular training of children who squint.

A CASE OF DYSINSULINISM

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Apart from those described by Ramsbottom and Eastwood, and by Moore and O'Farrell, no cases of spontaneous hypoglycæmia appear to have been reported in this country. The total number recorded in America and elsewhere is still small, but the condition is probably frequently overlooked and the symptoms are likely to be regarded as the product of the patient's imagination. We are indebted to Dr. J. J. Spira for the opportunity of studying the following case in which he had diagnosed the hypoglycæmia syndrome.

CASE RECORD

The patient is a married woman, 44 years of age. Her mother suffered from hypertension and died from a stroke at 47. There is no family history of glycosuria or diabetes.

The patient has had three healthy children and six early miscarriages, the miscarriages alternating with the normal pregnancies.

Her medical history has been eventful. At 25 she was curetted for dysmenorrhœa; but the periods are still irregular and usually accompanied by attacks of sickness, epigastric and lumbar pain, and abdominal distension.

At 30 she was operated on for epigastric hernia. At 38 she had an attack of typhoid. In 1930 her tonsils were enucleated. For six years she has suffered from frequent and painful micturition, and in 1931 had a definite attack of pyelitis for which she was treated with ureteric catheterisation and pelvic lavage. Later in the same year an ischiorectal abscess developed and was incised. Since the age of 30 she has suffered from mucous colitis and has passed mucous casts. This condition has been somewhat improved by colonic lavage.

In 1926, shortly after her attack of typhoid, an abnormality of her sugar metabolism was first noticed. A Swiss physician whom she had consulted found a reducing body in the urine. She was treated by him for "glandular anæmia" with thyroid and parathyroid, and was given a course of insulin, 10 units on alternate days. During this treatment she experienced several insulin reactions.

The maximum weight which she has ever attained was 10 st., at the age of 19. Since her miscarriages she has lost weight steadily, and in 1928 she was only 6 st. 3 lb. At the time of writing her weight is 7 st. 9 lb., and her height 5 ft. 5 in.

The attacks of which she now complains can be traced back for at least four years and probably longer. At first intermittent, they have become steadily more frequent and more severe. Noticeably severe reactions occurred at the time of the ischiorectal abscess (1931). She is now getting a slight reaction almost every day. They usually occur at about 12 noon but occasionally before tea, at 10 P.M., and in the early hours of the morning. They are aggravated by exercise and are relieved by rest in bed. She describes them as resembling the results of an overdose of insulin. At the onset of the reaction there is a feeling of intense depression. This is succeeded by an attack of giddiness, breathlessness, and a sense of impending dissolution. The memory and intelligence are temporarily impaired. There is marked tremor of the hands, pallor, tachycardia, and sweating. She becomes ravenously hungry. The reaction clears up in ten minutes after taking glucose in solution, rather more slowly if it is ingested in solid form.

Sugar was found in the urine in January, 1932. In May, 1932, a high blood-sugar was found on two occasions by two different consultants, and she was put on insulin. In June, 1932, a blood-sugar of 0·038 per cent. was noted by a third consultant, with a "lag curve" after glucose ingestion, and frequent doses of sugar were advised. Recently she has been taking up to 44 units of insulin, in two doses, daily, with a good deal of sugar at the time when reactions are expected to occur. On this she has gained 12 lb. in weight.

She was first seen by us in September, 1932. At that time the blood-sugar three hours after a normal breakfast was 0·077, and an hour later had fallen to 0·054, signs of a reaction developing. She had had no insulin for 24 hours. Sugar, which was ravenously consumed, rapidly relieved her symptoms.

On Oct. 12th, 1932, she was admitted to a small ward for observation, having taken no insulin for 48 hours. Physical examination was negative except for slight epigastric tenderness. Blood pressure 120/82. She presented no clinical signs of endocrine dysfunction. She was put on a diet of 2000 calories, containing 200 g. carbohydrate, divided equally over the four meals. The blood-sugar on Oct. 13th ran the following course. Breakfast: 50 g. carbohydrate at 8 A.M. Blood-sugar 10 A.M., 0·048; 11 A.M., 0·048; 12 noon, 0·058; 1 P.M., 0·077. Lunch: 50 g. carbohydrate; 2 P.M., 0·113; 3 P.M., 0·122; 4 P.M., 0·092; 5 P.M., 0·072. Tea: 50 g. carbohydrate; 6 P.M., 0·139. The urine, passed hourly, showed traces of glucose (glucosazone) throughout the test, but no acetone.

The results of two glucose-tolerance tests are given in the accompanying Table. Test I. was followed by a severe attack of hypoglycæmia.

Test I (20/10/32)					Test II (15/10/32)			
	B.S. per cent.	Urine. Amount	Urine. Sugar per cent.	R.Q.	B.S. per cent.	Urine. Amount	Urine. Sugar per cent.	R.Q.
Fasting	—	—	—	0·81	—	—	—	—
,,	0·065	45 c.cm.	Trace.	0·77	0·062	60 c.cm.	Nil.	0·83
	Glucose 50 g.				Glucose 50 g.			
30′	0·154	—	—	0·84	0·139	—	—	0·86
60′	0·227	—	—	0·89	0·345	45 c.cm.	0·8	0·86
90′	0·201	65 c.cm.	2·05	0·94	0·152	—	—	0·91
120′	0·141	—	—	0·96	0·171	50 c.cm.	2·5	0·89
170′	0·109	28 c.cm.	2·20	0·92	0·122	30 c.cm.	1·5	0·88
210′	0·056	10 c.cm.	Trace.	0·84	—	—	—	—

With a view to determining the extent of peripheral sugar storage, the capillary-venous sugar difference was estimated while the patient was hypoglycæmic: Blood-sugar, capillary (finger-prick), 2½ hours after breakfast at 10.30 A.M., 0·085; at 11 A.M., capillary 0·054, venous 0·040. Considerable peripheral storage was therefore going on at hypoglycæmic levels of blood-sugar.

As the patient had been taking large doses of insulin without any apparent aggravation of her symptoms, the effect of 30 units of insulin on the blood-sugar was examined. The patient was on the same diet under the same conditions as on Oct. 13th. The insulin was injected immediately before her breakfast which contained 50 g. carbohydrate, and was taken at 8 A.M. Blood-sugar: 10.30 A.M., 0·079; 11 A.M., 0·048; 11.30 A.M., 0·054; 12 noon, 0·077; 12.30 P.M., 0·067, 1 P.M., 0·041. Hypoglycæmic

symptoms were noticed between 11.30 A.M. and 12 noon, but passed off without administration of sugar. Exogenous insulin did not appear to depress her usual blood-sugar level to any appreciable extent. After injection of 0·5 c.cm. 1 : 1000 adrenaline, the blood-sugar rose in the course of two hours from 0·067 to 0·100, which we regard as a normal response.

The results of the lævulose-tolerance test gave no indication of any grave impairment of liver function. Blood-sugar before: 0·081; 30 min., 0·125; 60 min., 0·095; 90 min., 0·095; 120 min., 0·087; 150 min., 0·077. The basal metabolic rate determined on three occasions gave rates of −26 per cent., −22 per cent., −18 per cent., but apart from this no signs of thyroid inadequacy were present.

Radiographic examination showed a sella turcica of normal size and appearance, and a normal gastric outline and emptying time. The fæces on a mixed diet contained 20·8 per cent. of fats, and showed a good digestion of muscle-fibres and no excess of starch microscopically. The urinary diastatic index was 10·0. There was therefore no evidence of impairment of the external secretion of the pancreas. A further blood-sugar curve after 50 g. glucose was obtained on Feb. 3rd, 1933, and the results were as follows: blood-sugar: 11 A.M., 0·068; 11.30 A.M., 0·167; 12 noon, 0·151; 12·30 P.M., 0·130; 1 P.M., 0·070; 1.30 P.M., 0·037. From this it appears that, in comparison with the previous curves, the rise of blood-sugar is less marked; the terminal hypoglycæmia is, however, accentuated.

DISCUSSION

Hypoglycæmic attacks not due to injection of exogenous insulin have been reported in patients suffering from gross lesions of the liver, lesions of the adrenals, adenomata or adenocarcinomata of the islands of Langerhans, and the "pluriglandular syndrome." There was no evidence in our case of a gross liver damage. A tumour large enough to destroy almost the entire liver parenchyma can hardly have been present for the length of time during which the attacks had occurred, and should have been easily detected on clinical examination. It is common knowledge that in conditions of hepatic disorder, such as cirrhosis, no hypoglycæmic symptoms usually occur. The few cases of hepatic hypoglycæmia which have been described have been associated with almost entire destruction of the liver by growth: of this there can be no question in this patient in view of the four years' history of symptoms. On the other hand, with insular adenomata or adenocarcinomata, gross irregularities of blood-sugar, both in the upward and downward direction, have been observed. The case reported by Wilder and his co-workers is one of the earliest on record. This patient gave high blood-sugar curves with a terminal hypoglycæmia practically identical with those obtained in our case. There was no evidence of hepatic disorder. Laparotomy and a subsequent post-mortem examination revealed that the metabolic disturbance was associated with an adenocarcinoma of the pancreas, with small secondary nodules in the liver. The tumour tissue, which contained insulin, had apparently arisen from the islets of Langerhans. Abundant glycogen was present in the liver. Adrenal hypoglycæmia due to destructive lesions of the adrenal medulla, as in the case reported by Rabinovitch, is a rarity, and the disease is of short duration. In our patient the absence of Addisonian pigmentation, the normal blood pressure, and the length of history, appear to negative this possibility.

The syndrome met with in our patient most closely resembles that associated with definite adenomata or adenocarcinomata of the insular tissue or diffuse hyperplasia of the islands of Langerhans. The most curious feature of the condition is the tendency to extremely low blood-sugar levels on a normal starch-containing diet, coupled with a blood-sugar response to glucose, ingested in solution, resembling that of the diabetic. In view, however, of the rise in the respiratory quotient which follows the ingestion of glucose there can be no question of inadequate oxidation of glucose, as in the diabetic. The absence of ketosis is further evidence of the satisfactory oxidation of sugar. The marked terminal hypoglycæmia also differentiates these curves from those of the diabetic.

Similar findings have been reported by other observers. Glucose-tolerance tests were performed in 12 of 20 pancreatic cases collected by Gammon and Tenery; in 8 instances high curves were obtained. In a quarter of the recorded cases glycosuria had been noted.

No explanation of this anomalous response to glucose can be given. We have as yet no definite knowledge as to the mechanism by which the output of insulin from the pancreas is controlled. For the present, in view of the association of high blood-sugar curves after glucose ingestion with hypoglycæmic levels of blood-sugar on a normal diet, the condition is perhaps better termed dysinsulinism than hyperinsulinism. The findings suggest a failure to adjust the insulin output to the needs of the body rather than a constant excessive output.

Other unexplained features of the case are the tolerance of exogenous insulin and the low basal metabolic rate. In the latter respect our case resembles that reported by Pettersson, in which atrophy of the thyroid and adrenals was found post mortem in association with an increase in the number of the islands of Langerhans.

Differentiation between diffuse hypertrophy of the insulin-producing tissue and localised adenomata or adenocarcinomata of the islands of Langerhans is with our present knowledge impossible. The indications for operative interference are therefore uncertain. In default of surgical treatment two possible lines of treatment present themselves. We may attempt to avoid stimulation of the insulin-producing tissue by placing the patient on a diet poor in carbohydrate; or we may aim at keeping the blood-sugar at a normal level by frequent carbohydrate feeds. Successful results have been reported from both methods.

Good bibliographies of the condition are to be found in the papers by Harris, and by Gammon and Tenery.

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COMMENT ON THE ABOVE CASE

BY DR. P. J. CAMMIDGE AND DR. E. P. POULTON

Dr. Griffiths and Prof. de Wesselow have kindly shown us their notes so that we can comment on this case, with which we were also concerned. Dr. G. L. Eastes has kindly allowed us to publish the first sugar-tolerance curve carried out on the patient on Feb. 5th, 1932. This one and the curve obtained by E. P. P. on June 29th, 1932 (Hagedorn-Jensen method)

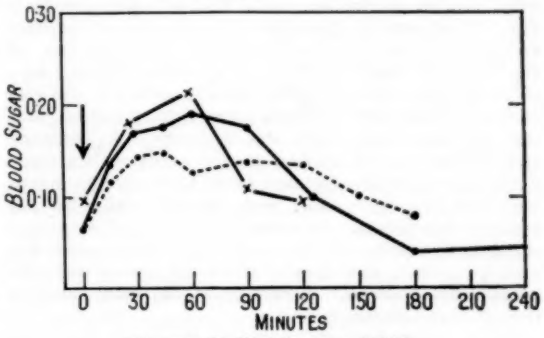
resembled in a general way de Wesselow's curves (MacLean's method) obtained in the latter part of October, 1932, except for the very high value of 0·345 per cent. obtained on one occasion by Griffiths and de Wesselow. But the curve obtained by P. J. C. on Dec. 7th, 1932, for the carbohydrate of the blood after hydrolysis was much lower, since the maximum value was 0·147 per cent. at three-quarters of an hour, and the curve for the "true" sugar was, of course, lower still. This suggests that the condition had varied in the course of the year. This was also borne out by the epinephrine test; on July 20th, 1932, E. P. P. found that the blood-sugar was 0·04 per cent. at 12.15 P.M. 1 c.cm. of 1 in 1000 epinephrine was injected, and the results obtained were at 20 min., 0·05 per cent.; 52 min., 0·04 per cent.; 75 min., 0·05 per cent.; 95 min., 0·05 per cent.; a negative result. Griffiths and de Wesselow, on the other hand, at a later date obtained a positive result with half the quantity of epinephrine.

At the moment the tendency in medicine is to diagnose any case of spontaneous hypoglycæmia with corresponding symptoms as due to hyperinsulinism caused by a tumour, hyperplasia, or merely increase of function of the islands of Langerhans. A study of the published cases tends, in our opinion, to throw doubt on this conclusion.

PANCREATIC ADENOMA OR HEPATIC DEFICIENCY?

The first case of adenoma of the islands of Langerhans was described by Nichols [1] in 1902, and Schneider [2] has collected 13 cases dealing with the literature up to 1922. This paper has evidently escaped the notice of many recent writers on this subject. Where clinical notes are available for these cases there does not appear to be any history of the hypoglycæmic symptoms recently described. Of course, it is possible that the symptoms were present, but not noted. This may sometimes have been the case, but it is difficult to believe that these symptoms were present in all the cases. For instance, Morse's cases were acute peritonitis and cerebral hæmorrhage. Rollett's case died of tuberculosis of the lungs and peritoneum, and the tumour in the pancreas was a chance finding post mortem. In Lecomte's case there was a tumour of the cerebellum with definite symptoms of cerebellar disease. Priesel's case was one of lobar pneumonia. We would suggest that these adenomas can occur without producing hypoglycæmic symptoms.

There have been described at least eight cases of the hypoglycæmic syndrome associated with adenoma and three cases with carcinoma. In McClenahan's and Morris's case,[3] the only case where the data are available, we have calculated that the size of the adenoma was 2·2 per cent. of the whole pancreas, a very small body to be solely responsible for such marked symptoms. Again in the cases described by Wilder and others [4] and Howland and others,[5] in spite of the hypoglycæmia the sugar-tolerance test gave a diabetic type of curve, a fact which requires some explanation. The suggestion put forward by Wilder that the liver was so full of glycogen that it could not store any more sugar so that the blood-sugar rose is partially supported by the work of Boller and Überrack,[6] who found that the blood-sugar did rise abnormally high when dextrose was given at the end of a period of insulin administration; but there was no hypoglycæmia at the beginning or end of the tests as occurred in the cases under review, and when the dextrose was given at the time of hypoglycæmia there was no very marked extra rise in the blood-sugar. Then, if hyperinsulinism leads to hyperglycæmia after sugar, why in all the other cases of spontaneous hypoglycæmia should the sugar-tolerance curve have been normal? A still greater difficulty is the response to epinephrine or pituitrin. In three out of eight cases the blood-sugar did not rise in response to injections of these substances; but a rise would be expected if the liver was full of glycogen which was demonstrated by Wilder to be so in his case. His suggestion that there was so much insulin in the blood that the effect of the epinephrine was swamped is not convincing, because where a low sugar results from a balance between an excess of insulin and any epinephrine secreted secondarily (? by reflex action) a dose of epinephrine should have its usual action and raise the blood-sugar.



× —— × R. Easte's curve, 5/2/32.
·——· E. P. P.'s curve, 29/6/32.
·····P. J. C.'s curve, 7/12/32 (total carbohydrates estimated).

The fact is all these biochemical changes are found in rabbits when the liver has been poisoned by phosphorus [7]; the blood-sugar is low because its supply from the liver is interfered with; there is a bigger rise than usual after a dose of dextrose combined with insulin, and the blood-sugar level is not affected by epinephrine, because the glycogenic function of the liver is interfered with. Cammidge and Howard [8] also found that by poisoning the liver with hydrazine phosphate the disturbance of glycogenic function was indicated by an increase in the dextrins which were liberated into the circulation. If hypoglycæmia in man is usually due to impairment of glycogenic function it is quite likely that the latter might be followed secondarily by some increased activity of the islands of Langerhans, which might take the form of an adenoma or even a carcinoma of the pancreas. Such increased activity would have the advantage of keeping up the load of glycogen in the liver cells, though it would also deplete the peripheral circulation of sugar, and in this respect aggravate the effect of the primary hepatic disease.* On this view operation would also be expected to bring relief, and in this connexion it is of particular interest that our patient obtained most relief by large doses of insulin and glucose; this may have helped the liver because the islands had not yet hypertrophied sufficiently—the patient never actually fainted, a symptom usually present in the pancreatic cases.

In favour of the hepatic deficiency point of view is the fact that in Wilder's case and in Finney's case [9] (where a normal pancreas was partly removed) there

* That this sequence of events in pathology is not fanciful is shown by congenital heart disease which is benefited by the polycythæmia: the latter, however, sometimes increases the viscosity of the blood so much that other undesirable effects are produced.

was a long-standing history of alimentary symptoms which might well affect the liver, and there is a similar history in the present case; and Cammidge [10] and Gammon and Tenery [16] have commented on the frequency of this kind of history in hypoglycæmia.

Such a view makes it necessary to postulate a dissociation of hepatic function—an interference with glycogenic function without disturbances of biliary, urea forming, and uric acid destroying functions, &c. Experimentally this dissociation takes place when most of the liver is removed from a dog.[11] In Nadler and Wolfer's [12] case of carcinoma involving most of the liver the sugar-tolerance curve was very similar to the earlier curves in the present case, and epinephrine did not cause a rise of blood-sugar. Clinically, the patient had typical hypoglycæmic attacks which were hardly controlled with 270 g. of dextrose a day; there was no jaundice or other sign of hepatic deficiency. In Crawford's [13] case of carcinoma of the liver as much as 2000 g. of carbohydrate were given to prevent hypoglycæmic symptoms; the rise of blood-sugar after dextrose was not abnormal, and the van den Bergh test was negative. In Wagner and Parnas's much quoted case,[14] a girl with a large liver, who sometimes passed fatty stools in the morning, had hypoglycæmia and ketosis while fasting without symptoms. Glycosuria occurred after giving sugar and starch, and the maximum blood-sugar was 0·43 per cent. two hours after the dose, and the ketosis disappeared. Epinephrine did not cause a rise of blood-sugar.

These examples are enough to show that the symptoms of impairment of hepatic hypoglycæmia may imitate closely the syndrome of hyperinsulinism as ordinarily understood.

THE PRESENT CASE

The case recorded above falls rather into the hepatic than into the pancreatic group of hypoglycæmic cases. Griffiths and de Wesselow's lævulose-tolerance curve indicates some degree of hepatic deficiency (cf. Kimball [15]), while P. J. C. on Dec. 7th, 1932, found that the non-protein nitrogen was 50 mg., which is distinctly above normal, and the "difference values" between the total reducing substances and the true sugar in the blood following the administration of dextrose were increased—both indications of hepatic deficiency. The low values for the basal metabolism obtained by de Wesselow can be correlated with P. J. C.'s finding that the iodine content of the blood was low (Kottmann's reaction); hence there was some associated thyroid deficiency. We did not advise operation.

We have written at some length on this interesting case, because we do want to emphasise the fact that hyperinsulinism may not always be the primary cause of the hypoglycæmic syndrome, arising spontaneously. As Cammidge has pointed out, the liver is more likely to be at fault in these cases.

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SEDIMENTATION-RATE AND ULTIMATE PROGNOSIS IN TUBERCULOSIS

AN INVESTIGATION INTO THE AFTER-HISTORY OF FIVE HUNDRED CASES

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IN a previous paper [1] the value of the sedimentation-rate as a reflection of the immediate benefits of sanatorium treatment was investigated on the experience of 318 clinically tuberculous cases, watched over a period of residence of not less than four months. The technique used was that of the late Dr. Arthur Inman, and was described in the paper; it has been used in all cases admitted since November, 1926.

It is now possible to follow 500 cases over a period of from two to six years after discharge, and therefore to inquire into the value of this test as a factor in estimating ultimate prognosis. These cases are the first 500 consecutive admissions in which a diagnosis of pulmonary tuberculosis was made on a combination of physical and X ray findings and sputum tests. No case is counted positive unless it was positive in the sanatorium and no case has been counted negative on discharge unless there were at least three consecutive negative sputum tests at fortnightly intervals before such date of discharge; 362 of the 500 were T.B.+ and 138 were T.B.− on admission. All cases have been divided into groups according as their sedimentation-rates fall between 1–10, 11–20, 21–30, 31–40 per cent. and over, both on admission and on discharge.

TABLE I.—*Sedimentation-rates on Admission*

Sed.-rates.	T.B. + cases.			T.B. − cases.		
	Alive. (%)	Dead. (%)	Total	Alive. (%)	Dead. (%)	Total
1–10	36 (94·7)	2 (5·3)	38	53 (100)	—	53
11–20	88 (87·1)	13 (12·9)	101	46 (90·2)	5 (9·8)	51
21–30	61 (60·4)	40 (39·6)	101	18 (85·7)	3 (14·3)	21
31–40 and over	68 (55)	54 (45)	122	9 (69·2)	4 (30·8)	13

Table I. gives the after-history according to the sedimentation-rates on admission, both in T.B.+ and T.B.− cases, the rates given being the mean of the first two readings taken within three weeks of the date of admission.

There is a marked rise in the death-rate with each successively higher reading. This is more evident in the positive cases but the results in negative cases march with them; a figure above 20 in positive cases and above 30 in negative cases means a grave prognosis in that more than 30 per cent. are dead in two to six years after discharge. The totals in each group are also worthy of note, and if the per-

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(Continued from previous column)

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centage of gross total is worked out, it is found that 61·6 per cent. of positive cases enter the sanatorium with a sedimentation-rate over 20, while 9·4 per cent. of negative cases are over 30 on admission.

Table II. follows the after-history to date; (*a*) follows 216 cases who were positive on admission and discharge, (*b*) 146 cases who were positive on admission and negative on discharge, (*c*) 138 cases who were negative throughout their stay. The average duration of treatment was four months. If the results of sections (*a*) and (*b*) of this table are compared, it is seen that there is a close approximation in prognosis where the sedimentation-rate was under 20 per cent. As in Table I. there is a marked rise in the death-rate where the figure is over 20 per cent., and it is much more marked in those that remain positive until it reaches 52·9 per cent. where the figure is above 30. On the other hand, the prognosis is more than twice as good in those who remained positive and left at a figure under 10 than in those who lost the tubercle in their sputum but left with a sedimentation over 10.

A comparison of sections (*b*) and (*c*) will show the value in prognosis of sedimentation-rates in cases who

TABLE II.—*Sedimentation-rates on Discharge*

Sed.-rates.	(*a*) T.B.+ on admission and on discharge.			(*b*) T.B.+ on admission. T.B.− on discharge.			(*c*) T.B.− on admission and on discharge.		
	Alive. (%)	Dead. (%)	Total	Alive. (%)	Dead. (%)	Total	Alive. (%)	Dead. (%)	Total
1–10	34 (87·2)	5 (12·8)	39	67 (95·7)	3 (4·3)	70	75 (97·4)	2 (2·6)	77
11–20	39 (70·9)	16 (29·1)	55	33 (71·7)	13 (28·3)	46	36 (90)	4 (10)	40
21–30	25 (48·1)	27 (51·9)	52	15 (75)	5 (25)	20	11 (84·6)	2 (15·4)	13
31–40 and over	33 (47·1)	37 (52·9)	70	7 (70)	3 (30)	10	4 (50)	4 (50)	8

became negative as against those who had at no time during their residence produced positive sputum. It happens that the gross totals in these sections are almost the same—(*b*) 146 and (*c*) 138—and that the totals in each subgroup are practically the same, so that a comparison of formerly "open" as against "closed" tubercle cases can be read in conjunction with the sedimentation-rates. The prognosis on the whole is not so good in (*b*) as in (*c*). It is interesting to note, however, that there is no marked difference in the prognosis provided the sedimentation-rate on discharge is under 10, while it seems that the prognosis is almost four times better (4·3 : 15·4 per cent.) in those who lost the tubercle in their sputum and left with a sedimentation-rate under 10, as against those who never were positive but left with a sedimentation-rate of over 20.

Of the 500, 121 (24·2 per cent.) are dead. Sanatorium records show that on discharge 29 of these 121 were on rest as having raised temperatures, and that they had gained no appreciable benefit by their residence; the remaining 92 had normal pulse and temperature and were on exercise varying from attendance at meals to walking exercise up to six miles per day, and they seemed, on the usual criteria of physical signs, pulse, temperature, and "exercise tests" to be making satisfactory progress. These 92, therefore, would appear to warrant closer investigation, with a view to ascertaining whether their sedimentation-rates give any hint as to their liability to break down; 82 of them had been positive on admission, and 60 of these 82 had remained positive; the remaining 10 had never had tubercle in their sputum during treatment. When adjustments are made by subtracting the 29 according to their position in the groups of sedimentation-rates on discharge, Table III. emerges from Table II.

TABLE III

Sed.-rates.	T.B.+ on admission. T.B.+ on discharge.		T.B.+ on admission. T.B.− on discharge.		T.B.− on admission and on discharge.	
	Total.	Dead (%)	Total.	Dead (%)	Total.	Dead (%)
1–10	37	3 (8·1)	70	4 (5·7)	77	2 (2·6)
11–20	52	14 (27)	46	12 (26)	40	4 (10)
21–30	46	19 (41·3)	20	5 (25)	13	2 (15·4)
31–40 and over	56	24 (43)	8	1 (12·5)	6	2 (33·3)

This Table shows, as former Tables, the comparatively small number of patients who lose the tubercle in their sputum and leave the sanatorium at a figure over 20 per cent. Allowing for this, there is a sharp rise in the death-rate of all groups with a sedimentation-rate of over 10. Positive sputum has a decided bearing, but its effect is most seen in readings over 20 per cent., and it is clear that it is far better for a patient to remain T.B.+ and leave the sanatorium with a reading under 10 than to become T.B.− and leave with a reading over 10; indeed, such a patient has a better prognosis than one who has never had positive sputum but is discharged with a sedimentation-rate of over 10.

CONCLUSIONS

This investigation appears to show that considerable value must be given to the sedimentation-rate in assessing ultimate prognosis. It is usual to assess such prognosis on physical signs, temperature, pulse, sputum tests, and fitness for exercise judged on the results of "exercise tests." It is well known how such criteria can lead the observer astray; the sedimentation-rate may be a decided help, since the prognosis becomes increasingly grave with the higher rates of sedimentation. To enter the sanatorium with a figure of over 20 and to leave with a figure over 10 means a grave prognosis; this applies to all cases of clinical tuberculosis, "open" and "closed," and while the gravity increases with "open" cases and in particular with those who remain so in spite of treatment, it appears that it is better to remain positive and secure a fall in the sedimentation-rate to under 10, than to be a "closed" case with a discharge figure of over 10.

One method of treatment that reduces the sedimentation-rate was mentioned in the last paper—artificial pneumothorax; the average fall in 20 cases was from 31 per cent. to 14 per cent. Further experience with this treatment has borne out this result. Other methods such as tuberculin (B.E.) are being tested, but the old lesson seems obvious: rest is the best of all treatments. Once the patient has been assessed, as only sanatorium observation can assess him, during his first month's residence, the amount of rest required, the capacity for increasing movement in "graduated rest," and the fitness for return to work ought to be founded as much on the movements of his sedimentation-rate as on his pulse, temperature, "exercise tests," and sputum results. Both immediate and after-history results may be benefited and the physician may be distinctly aided in his difficulty of the evaluation of prognosis.

CASE OF STREPTOCOCCAL MENINGITIS

WITH RECOVERY

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STREPTOCOCCAL meningitis, except as a complication of some otitic infection, is rare, and recovery in any event is uncommon. The following case illustrates both these phenomena and is therefore regarded as worthy of record.

HISTORY OF THE CASE

A labourer, aged 23, was admitted to hospital on Oct. 20th, 1931, complaining of severe headache which had persisted since its onset on Oct. 15th. Associated with this headache there had been periods of mild delirium, giving place to marked drowsiness. Vomiting occurred only once and that at the commencement of the illness. On the evening of Oct. 19th a rise in temperature was first noted, and complaint was made of aching pain in the back and of diplopia.

When first seen in hospital the patient was conscious but extremely drowsy. He answered questions correctly, but speech was slow and drawling. Respirations were sighing and irregular, 20 per minute. The temperature was 102° F.; the pulse-rate was regular, 80 per minute. Very definite nuchal rigidity, slight opisthotonos, and bilateral Kernig's sign were present. Ptosis of the left upper eyelid and a pronounced convergent strabismus were evident. The pupils reacted to light and on accommodation. The right pupil was larger than the left. Both external recti were paralysed. Other eye movements were normal. The right knee-jerk and both ankle-jerks could not be elicited. All other deep reflexes were active. The plantar reflexes were both flexor. There were no spots anywhere on the skin, but *tache cérébrale* was very marked. The tongue was dry and glazed, and there was much sordes around the lips but no herpes. Nothing was found in the ears or in the accessory sinuses. The tonsils were enlarged and inflamed.

On admission a diagnosis of basal meningitis was made; lumbar puncture was performed with no great relief, and morphia was required on account of persistent headache. The cerebro-spinal fluid was faintly turbid but contained no organisms; 60 c.cm. was withdrawn. Next day there was no change. The patient had had no sleep despite morphia, and intense headache persisted. The temperature was 103° and the pulse-rate 90. Lumbar puncture was again performed; 60 c.cm. was withdrawn, and 35 c.cm. of antimeningococcus serum was injected intrathecally. The fluid withdrawn gave a growth of non-hæmolytic streptococcus on culture. A throat swab gave streptococcal and staphylococcal growths.

Headache was rather less severe next day (Oct. 22nd), when again 60 c.cm. of cerebro-spinal fluid was withdrawn, and 35 c.cm. of antistreptococcus (polyvalent) serum was administered intrathecally and 20 c.cm. intramuscularly. He was quiet during the 23rd. Photophobia was present. At lumbar puncture 60 c.cm. of fluid was obtained, more yellow and turbid than previously, but not markedly under pressure; 35 c.cm. of antistreptococcus serum was again given intrathecally. At night severe epistaxis occurred, and the patient became violently, almost maniacally, delirious. His mental condition appeared clearer in the early part of the next day (Oct. 24th), but towards afternoon he fell into a low muttering delirium. Nevertheless he recognised relations and carried on a brief rational conversation with them. Headache was still severe. Antistreptococcus serum (20 c.cm.) was given intramuscularly. Mild delirium was present during most of the 25th, and 25 c.cm. of antistreptococcus serum was injected intramuscularly. At midnight a sudden worsening of his condition occurred, delirium becoming more pronounced and breathing distinctly Cheyne-Stokes. Lumbar puncture next morning at first yielded no fluid, but by gentle aspiration a number of thick, purulent, fibrinous flakes were obtained and afterwards about 7 c.cm. of yellow fluid. Streptococcus antitoxin (scarlatinal, B. W. and Co., 20 c.cm.) was given intramuscularly, and on the following day he was talking rationally and taking an interest in his surroundings. Pain was still acute in the back of the neck and head. The antitoxin was repeated on this and the two subsequent days. On Oct. 28th the nuchal and head pains were less severe and diplopia was much less pronounced. The patient demanded more nourishment.

The temperature had fallen to normal on Oct. 29th and there was a dramatic change in the picture. The patient was ravenous and he was able to read the morning paper. A very profuse serum rash appeared and lasted four days but rapid improvement continued. The nuchal rigidity was practically absent on Oct. 30th and he could easily nod his head. Sleep was prolonged and natural. The plantar reflexes were extensor on Oct. 31st. On Nov. 2nd lumbar puncture yielded 15 c.cm. clear fluid, not under pressure.

On Nov. 12th Kernig's sign was still present, and staphylococci and streptococci were found on a throat swab. On Dec. 12th there was still a tendency to rapid pulse and pain in the region of the fourth lumbar spine. The right plantar reflex was extensor, the left flexor. Diplopia was still present on Dec. 20th and the right plantar reflex still gave a dubious extensor response. He could now touch his toes with his fingers. He was discharged on Dec. 24th.

On March 8th, 1932, he was readmitted to hospital for tonsillectomy. A throat swab gave sparse streptococcus culture, also staphylococcus growth. He ran a post-operative temperature for 12 days and was not fit for final discharge until March 26th, at which time examination revealed no sign of organic disease or permanent damage. There was no evidence of weakness of the ocular muscles.

TABLE SHOWING PATHOLOGICAL CHANGES WITH SERUM

Day of disease.	Chlorides mg. per 100 c.cm.	Sugar per cent.	Protein per cent.	Globulin.	Gold curve.	Culture.	C.S.F. amount c.cm.	Cell count per c.mm.	Serum.		Leucocyte count.
									I.T.	I.M.	
20/10/31	643	0·02	0·045	Present.	0000122321	No growth.	60	90	—	—	—
21/10/31	660	—	0·12	,,	0000122232	Non-hæmolytic streptococcus.	60	200	35 A.M.	—	28,000
22/10/31	670	—	0·16	,,	000033321	,,	60	450	35 P.A.	20 P.A.	—
23/10/31	676	—	0·28	,,	0000134432	,,	60	800	35 P.A.	—	48,000
26/10/31	—	—	—	—	—	No growth.	7	—	(24/10/31) 20 P.A. (25/10/31) 25 P.A. 20 S.A.		—
2/11/31	726	0·06	0·28	Present.	0011243300	,,	15	—	(27/10/31) 20 S.A. (28/10/31) 20 S.A. (29/10/31) 20 S.A.		—

A.M. = Antimeningococcus serum.
P.A. = Antistreptococcus (polyvalent) serum.
S.A. = Streptococcus antitoxin (scarlatina) globulins.
I.T. = Intrathecally.
I.M. = Intramuscularly.
C.S.F. = Cerebro-spinal fluid.

DISCUSSION

Recovery in these cases is, as already stated, comparatively rare. Rosenberg and Nottley[1] have collected 41 cases from the literature, and further cases have been recorded by Solomon,[2] Cassel,[3] Ebert,[4] Leishman,[5] and recently by Trounce and

Douthwaite.[6] With the case here described this makes a total of 47 cases; but the list is probably by no means complete.

A striking feature of the more recent cases, and one well exemplified in our case, is the rapidity of progress once improvement is established. How far this is due to the use of the various sera it is difficult to say, but it seems more than likely that they exercise a very potent influence on the course of the disease.

Source of infection.—The great majority of cases arise as the result of some septic condition in the ears, usually a purulent otitis media. Of the cases mentioned above, almost 70 per cent. could be traced to this source. A primary infection in the throat is rare. In Solomon's case meningitis followed an injury to the posterior wall of the pharynx caused by a blow from a curtain pole. In the cases of Vining and Thompson,[7] Cassel, Trounce and Douthwaite, and in Rosenberg and Nottley's own patient, the source of infection appeared to lie in the throat. In our case a somewhat trivial tonsillitis was apparently responsible for the condition. It seems probable that in these cases the meningitis is due to a blood-borne infection, but the possibility of a spread upwards from the nose through the cribriform plate of the ethmoid cannot entirely be excluded.

Type of organism.—In the reports of most of the recovered cases the type of streptococcus is not specified. In ten of Rosenberg and Nottley's series, and in the cases of Leishman and of Trounce and Douthwaite, the causative organism is recorded as being a hæmolytic streptococcus. In five cases, including that of Ebert, the *Streptococcus viridans* was obtained on culture. *S. pyogenes and S. mucosus* have also more rarely been identified.

Treatment.—Lumbar puncture either alone or in combination with some other method is the procedure most generally adopted. Operative measures—e.g., mastoidectomy and labyrinthotomy—have of course been employed, but only where the source of infection lay in the ear. Where a block in the spinal canal has taken place and little fluid has been obtained by lumbar puncture, cisternal puncture has been resorted to (Rosenberg and Nottley). In several cases antiseptics were used to wash out the spinal canal: acriflavine (Neal and Jones [8]) and 1 per cent. mercurochrome (Leishman). More recently, however, serum has been administered in addition to any other procedure. Of the sera employed the antimeningococcal has been that most frequently used in the first instance before a report on the cerebro-spinal fluid has been obtained; and in one case (Ebert) recovery followed the use of this serum alone. Once the true state of affairs has been recognised polyvalent antistreptococcal serum has been extensively used, and results have certainly been better since its introduction. As is shown in the accompanying Table and in the history of this case, its administration can be of great value. In streptococcus antitoxin (scarlatina) globulins, which has more recently become available, we have probably a much more potent agent. Trounce and Douthwaite, using this preparation intravenously and intrathecally, report the most dramatic change in their patient's condition.

In the case here recorded it is difficult to assess its value accurately, since it was not administered until the sixth day of hospital residence and followed the administration of large doses of polyvalent serum, but recovery was so extremely rapid thereafter that it is difficult to avoid the conclusion that the scarlatinal serum was in large measure responsible. More data are, of course, required before any definite conclusions can be drawn concerning the most effective method of administration, but these results appear to us to be most encouraging.

We are indebted to Dr. R. E. Robinson, pathologist to the hospital, for the reports on the cerebro-spinal fluid in this case.

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Clinical and Laboratory Notes

CLICKING KNEE IN CHILDHOOD

BY ERIC I. LLOYD, M.B. CAMB., F.R.C.S. ENG.

SURGEON TO THE HOSPITAL FOR SICK CHILDREN GREAT ORMOND STREET, AND TO THE PRINCESS LOUISE HOSPITAL FOR CHILDREN; ORTHOPÆDIC SURGEON TO THE ROYAL NORTHERN HOSPITAL

IN spite of their great activity, children hardly ever damage their semilunar cartilages, and consequently rarely suffer from internal derangement of the knee-joint. This is perhaps odd because it seems likely that the twisting strains of the playground are as great as those of the football field. The common adult injuries are caused by the momentum (*kinetic energy*)—i.e., half the mass multiplied by the square of the velocity of the moving body—and though the velocity may be equal, the mass of the adult is much greater than that of the child. Where the velocity is a constant, the expression $\frac{1}{2}mv^2$ varies directly as the mass and consequently the *kinetic energy* of a moving body of 160 lb. is twice that of one of 80 lb. Probably this is the explanation of childhood's immunity.

There is, however, a small but interesting group of children whose knees are at fault owing to a congenital abnormality. Symptoms are very occasionally delayed (see Case 3), but the same thing happens with a hernial sac of the inguinal canal and both are congenital lesions. It is probable that more than one condition is included in the term "clicking knee," but from a clinical standpoint it is at present impossible to distinguish them.

The following are recent examples from three hospitals:

CASE 1.—Hilda A., aged 8½. (Hospital for Sick Children, Great Ormond-street.) Clicking of left knee since birth. She could make it click, and kept herself awake by doing so. Operation (Dec. 31st, 1931): external cartilage appeared normal, and was not disc-like; internal cartilage seemed to be unduly mobile posteriorly and was removed. Thirteen months later there was no disability, and her knee has not clicked since the operation.

CASE 2.—Lucy B., aged 12. (Princess Louise Hospital for Children.) Child had suffered from extensive poliomyelitis of both lower limbs for many years, and both knees had clicked ever since she could remember. Operation (July 12th, 1932): removal of right external semilunar cartilage, which was more or less of a disc. Operation (July 19th): removal of left external semilunar cartilage; the knee was seen to "jump" over the outer part of the cartilage; a large and disc-like cartilage was removed. She never clicked her knee again, and was apparently cured of the condition when seen six months later.

CASE 3.—Ronald C., aged 12½. (Royal Northern Hospital.) Onset of symptoms referred to a gymnastic display three

months previously, when patient was kneeling. On attempting to stand, his knee would not go straight for a time and had often clicked since. Operation (May 11th, 1932): the external cartilage formed almost a complete disc, and was removed. Six weeks later he had normal range of movement, and was quite unable to make his knee click. Seven months after operation he was able to play football, and has had no trouble at all with his knee, which has not clicked since his operation.

The usual adjective applied to these knees is not particularly well chosen. It quite wrongly calls to mind the clicks which we all hear from time to time in our own healthy joints, and of which the bonesetter is a notorious exploiter. The clicking knee of childhood always evinces itself on the outer side of the joint, and generally about three-quarters of the way from flexion to active extension. Passive movement sometimes fails to elicit the click but at other times is successful. The patient is often better than the surgeon at producing it but this need not surprise us.

If this matter of the click is pursued a little further it will be found to resolve itself into the audible click and, in addition, a visible and palpable bump. The sound is often the least conspicuous part of it, for as the limb passes towards extension the external tuberosity of the tibia is seen and felt suddenly bumping and jolting forward on the femur like the wheel of a train running over an obstacle. It may be thought folly to strain at a click and swallow a bump, but it is difficult to find a word which better describes the simultaneous perceptions of three sense organs.

I have paid particular attention to this matter of the click, bump, or jolt, because radiograms are normal and a history of injury is generally absent. We are confronted simply and solely with a knee which clicks.

It is true that other symptoms are absent except an occasional complaint of weakness in the joint, and that the disability is generally slight, nevertheless, operation should be advised in view of the following considerations: (1) It is unbelievable that such a condition will right itself. (2) It may predispose to osteo-arthritis in later years. (3) It may be the precursor of one of the more familiar injuries of adult knees. (4) It is cured by the removal of the affected external semilunar cartilage if that structure is found to be a complete disc instead of the normal shape. If this condition is not present the click is caused by less well-defined abnormalities which may be discovered and remedied at operation. (See Case 1.)

ZYGOMATIC MASTOIDITIS

By W. S. Thacker Neville, M.D. Dub., F.R.C.S. Edin.

I am reporting the following case because there were no symptoms or signs of mastoid involvement, although pus was found in the mastoid as well as around the zygoma.

The involvement of the base of the zygomatic process is so common in acute mastoiditis that, just as one never performs an operation for acute mastoiditis without opening the cells at the tip of the mastoid, so one always chisels superiorly and anteriorly forwards in order to explore the cells in the base of the zygoma. This step, however, may not expose the infected cells, for Mollison, quoting Holmgren, says that the cells in the squamo-zygomatic mastoid portion of the temporal bone may be separated into two groups, an anterior group quite separated by non-cellular bone from a posterior group.

Of the five cases of zygomatic mastoiditis reported by Mollison, three presented the same features as this case. As in four of Mollison's cases, this patient had an otorrhœa and also was markedly deaf, which Mollison considers to be a valuable sign pointing to involvement of the mastoid even in the absence of an otorrhœa. MacCuen Smith, in his article on the method of involvement of the zygoma, shows a typical photograph of zygomatic mastoiditis with absence of swelling and tenderness on the mastoid. This case is unlike the cases reported by Nicol Rankin in that his cases showed swelling over the mastoid as well as over the temporal region. Horgan's cases were also unlike this one in that they followed a mastoiditis on which a Schwartze operation had been done. Watt's case resembled Nicol Rankin's cases in that it was an example of disease of the mastoid extending along the zygoma. His case, however, was peculiar in that the whole zygomatic process, including the cells on the outer aspect of the orbit, was involved.

Muecke described two types of zygomatic mastoiditis; the first, seen in children, resembles a parotitis but reveals itself as a true mastoiditis in a few days by signs appearing over the mastoid. The case reported here corresponds to this type in its resemblance to parotitis, but differs in that the mastoid signs were absent. Muecke's second type appears in adults and is similar to the first, except that there is less likelihood of signs on the mastoid, but rather there is pain and swelling over the orbit, simulating a frontal sinusitis.

Bernstein's case closely resembled the one reported below, for the swelling extended anteriorly as far as the eye. However, on the second day it also extended back over the mastoid. In his case the diagnosis was rendered more difficult, as the puncture of a dull tympanic membrane did not reveal pus. Mill's case resembled the case reported here in that the zygoma was bare and the swelling appeared in the parotid region, but in his case there was a marked tenderness of the mastoid and so there was no difficulty in diagnosing the case as one of mastoiditis.

CASE RECORD

A girl, aged 11, was seen by the family physician on June 11th, 1932, for earache following a feverish cold. On Oct. 8th she went to the doctor's surgery, as the ear had been discharging for six days.

On Oct. 10th, 11th, and 12th she was seen in her home. Her temperature was 102° F., and the ear was discharging and very painful. On Oct. 13th a swelling appeared over the zygoma, but there was no swelling or tenderness of the mastoid, which was repeatedly examined.

The temperature remained at 102° F. for the first week and then fell to normal during the second week, and the swelling over the zygoma subsided. On Oct. 25th the temperature rose to 102° F., and the swelling over the zygoma suddenly increased. I was asked by the family physician to see the child in order to open an abscess in front of the ear.

Examination (Oct. 25th) showed that the tympanic membrane was perforated and discharging a small quantity of pus. A large non-fluctuating swelling was seen over the left parotid region, reaching to the outer angle of the left eyebrow. Neither fluctuation nor tenderness was present on the tip or on the base of the mastoid. An acutely tender spot was present above the left auricle. Tuning fork tests demonstrated middle-ear disease. A 60 in. watch was heard at 60 in. by the good ear but only at 1½ in. by

the involved ear. I made a diagnosis of zygomatic mastoiditis.

On Oct. 26th the child was admitted to the nursing home. The mastoid was exposed by the usual incision, the tissues were separated over the zygoma and a quantity of pus flowed out, revealing a mouse-eaten appearance of the zygomatic process and squama of the temporal bone anterior to the auricle. On removing the cortex, a small-celled mastoid was uncovered, showing pus in the cells around the antrum, and a general osteomyelitis of the whole process, extending up to the dura and behind and around the lateral sinus; the cells at the tip were small (and were not macroscopically involved). The sinus wall was not involved. The incision was then prolonged along the zygoma and the posterior half of the zygomatic process was removed. This part did not appear to contain any large cells. The necrosed squama anterior to the auricle was chiselled away, exposing the dura. The wound was Bipped, gauze was applied to a bleeding dura vessel, and two drainage-tubes were inserted.

On Nov. 15th pressure on the healed mastoid wound resulted in sero-pus filling the external auditory meatus, so a small drainage-tube was introduced into the lower angle of the wound, and the patient was discharged to her home on a farm.

On Nov. 30th the wound had healed except for a drainage-tube track. There was no discharge into the ear on pressure.

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MEDICAL SOCIETIES

ROYAL SOCIETY OF MEDICINE

SECTION OF TROPICAL MEDICINE

AT a meeting of this section on March 2nd, with the president, Dr. HUGH S. STANNUS, in the chair, a discussion on the

Diagnosis of Chronic Diarrhœas

was opened by Dr. ROBERT HUTCHISON. Diarrhœa, he said, was a symptom and not a disease. He classified the chronic non-tropical diarrhœas into five groups:

(1) The *gastrogenic group*, in which diarrhœa was associated with achlorhydria, though the relation between the two was obscure. In these cases, administration of dilute hydrochloric acid cured the diarrhœa; if this treatment proved unsuccessful, the diarrhœa was not gastrogenic in origin.

(2) The *fatty diarrhœas*. This group included those conditions in which there was an excess of unsplit fat in the stools—namely, congenital steatorrhœa, pancreatic diarrhœa, cœliac disease, non-tropical sprue, and cases in which obstruction of the lacteals, for example by tuberculosis, interfered with the absorption of fat.

(3) Diarrhœa due to *enteritis* or catarrh of the small intestine. This might be due to some irritant such as alcohol, to gross errors of diet, to the toxins of disease such as tuberculosis (which might cause catarrh quite apart from ulceration), or possibly to the elimination of poisons, as in uræmia. Putrefactive and fermentative diarrhœa were varieties of enteritis due to the maldigestion of proteins and carbohydrates respectively. Catarrh of the small intestine could be diagnosed by the finding of bile-stained mucus in the fæces on microscopic examination.

(4) The *colonic diarrhœas* included catarrhal conditions which might become chronic, giving rise to morning diarrhœa; ulcerative colitis of the dysenteric and non-dysenteric varieties; obstructive diarrhœa due to new growth, or sometimes in elderly people to scybala.

(5) *Neurogenic diarrhœa* might be of the reflex type seen in children, in which the gastro-colic reflex seemed to be set on a hair trigger; or the psychogenic type, in which emotional excitement fired off the bowel. The neurogenic type of diarrhœa might be engrafted on an organic type, owing to loss of confidence on the part of the patient. Diagnosis, in every case, demanded a careful history; physical examination of the whole patient; naked-eye and microscopic examination of the stools and possibly estimation of their fat content; digital examination of the rectum and perhaps sigmoidoscopy; and sometimes the administration of a test-meal and sometimes an X ray examination following a barium enema. In many cases the diagnosis would remain uncertain, and any given case might fall into one or more categories.

DIARRHŒA IN THE TROPICS

Dr. P. H. MANSON-BAHR said that diarrhœa of some kind was the almost invariable concomitant of life in the tropics, and it was dangerous to assume that most of the tropical diarrhœas were due to amœbic dysentery. The result of this assumption was that every case was dosed with emetine, and as one of the symptoms of emetine poisoning was diarrhœa the last case of the patient might be worse than the first. Bacillary dysentery was much commoner than had been supposed, and the chronic form of the disease often went unrecognised. In amœbic dysentery the onset was usually insidious, there was little pyrexia, the course was prolonged, emaciation was rare, and leucocytosis moderate; in chronic bacillary dysentery the onset was often acute, pyrexia marked, the course prolonged, emaciation extreme, and there was no leucocytosis. Sigmoidoscopy in cases of chronic bacillary dysentery showed the mucous membrane to be corrugated and eroded; the colon formed a rigid tube with granulations on the surface which bled when touched; the diagnosis was made on the history and by serum agglutination. Idiopathic ulcerative colitis might occur in the tropics, and was usually diagnosed as dysentery; the prolonged use of emetine was harmful in this condition and in chronic bacillary dysentery. In idiopathic ulcerative colitis the mucous membrane looked like red plush and bled easily; diagnosis from bilharzia could be made by finding the eggs of the parasite in scrapings from a granulating patch. Polyposis might be a sequel of chronic bacillary dysentery or ulcerative colitis. Chronic malarial diarrhœa was often diagnosed as dysentery; the parasite could be found in the stools and treatment must be directed against the malaria. In sprue, emaciation was always marked; the condition was liable to be confused with pernicious anæmia and pancreatitis. Cœliac disease occurred among children in the tropics; it should not be confused with sprue, which he was convinced did not occur in young children.

SPURIOUS DIARRHŒA

Mr. LIONEL NORBURY said that diarrhœa might be true or spurious; it was with spurious diarrhœa that the surgeon was concerned—by which he meant

diarrhœa in which the patient passed mucus, blood, and pus, perhaps mixed with fæcal matter. The most common lesions causing these symptoms which the surgeon was called upon to treat were ulcerative colitis and proctitis and their sequelæ, tumours of the colon, and colonic diverticulitis. In ulcerative colitis there were frequent motions with the passage of blood, mucus, pus, and sloughs. It was a disease of early adult life, and was sometimes supposed to be of dysenteric origin because Flexner's bacillus had been found in a case. At St. Mark's Hospital routine culture from the stools had invariably given negative results, and in no case had the patient's serum agglutinated Flexner's or Shiga's dysentery bacilli. Sigmoidoscopy showed œdema in the early stages and later irregular areas of ulceration covered with bleeding granulations and mucous sloughs. The mucous membrane between the ulcers might become polypoid, and healing might be followed by stricture formation. The ulcers were distributed in three bands, opposite the three longitudinal bands of muscle running along the intestinal wall. Diagnosis was suggested by the symptoms and confirmed by sigmoidoscopy; the sigmoidoscope should be passed with care owing to the danger of perforation. Achlorhydria had been demonstrated in some cases and symptoms had improved when dilute hydrochloric acid was given by mouth; calcium deficiency was also blamed, but calcium therapy had produced little benefit. Ulcerative proctitis might coexist with ulcerative colitis, or might occur separately. Stricture might follow ulcerative proctitis. Treatment of carcinoma of the cervix with radium might cause proctitis, with liability to stricture formation. Gonorrhœal proctitis might be diagnosed by finding the organism in a smear in the early stages. Syphilitic or gonorrhœal proctitis might give rise to multiple strictures associated with ulceration above and below. The possibility that these so-called gonococcal and syphilitic strictures were due to the virus responsible for lymphogranuloma inguinale had to be borne in mind. Tuberculous proctitis was rare. Simple tumours of the colon and rectum might give rise to spurious diarrhœa and so might polyposis intestini, a familial disease affecting young adults, in which there was a tendency to malignant transformation. Carcinoma of the colon or rectum could be diagnosed by sigmoidoscopy and removal and section of a portion of the growth. A barium enema was of little use in the diagnosis of carcinoma of the recto-sigmoid because this region was masked by the presence of barium in the rectum itself.

DISCUSSION

Mr. E. T. C. MILLIGAN differentiated between non-tropical ulcerative proctocolitis and granular proctocolitis. In ulcerative proctocolitis, he said, there was deep ulceration, much discharge, and loss of elasticity of the bowel wall, with a tendency to deformity and stricture; digital examination was painful; microscopic examination showed leucocytic infiltration and disappearance of lymphoid tissue. The temperature was usually high and the patient anæmic and emaciated; the prognosis was uncertain. In granular proctocolitis, on the other hand, there was redness of the bowel mucosa but no ulceration, and no loss of elasticity or deformity; digital examination was not painful; microscopic examination of a snipping showed no destruction of lymphoid tissue. Temperature and pulse were little raised, and the patient was robust and able to work. Ultimate resolution was complete.

Dr. G. VILVANDRÉ said that if radioscopy was properly performed carcinoma of the recto-sigmoidal region could be demonstrated perfectly. The rectum loaded with barium had to be pushed to one side. Moreover, a radiogram taken after evacuation of the bowel showed the anatomy of the sigmoid delicately outlined in barium.

Dr. N. HAMILTON FAIRLEY asked whether the cases mentioned by Dr. Hutchison in which there was achlorhydria were cases of true achylia gastrica, and whether any of them had shown symptoms of subacute combined degeneration. It was rare, he said, for the bacillus to be isolated from so-called cases of chronic dysentery in this country. He considered that some cases of proctitis fell between the two groups portrayed by Mr. Milligan.

Dr. M. A. ARAFA said that he had recently seen cases of catarrhal enteritis in Vienna where diagnostic significance had been attached to the presence of a tender spot to the left of the umbilicus, and to large amounts of split fat in the stools.

Dr. JULIUS BURNFORD pointed out that Dr. Hutchison's classification was based partly on ætiology and partly on symptomatology.

The PRESIDENT said that he had been unable to find any proof that stricture of the rectum was ever due to syphilis or tuberculosis, and the evidence in favour of gonorrhœa or chancroid as causal factors was negligible. It was doubtful whether this condition was due to any of the causes to which it had been attributed in the past.

In replying, Dr. HUTCHISON said that any classification of diarrhœas could be criticised. There had been no signs of pernicious anæmia or subacute combined degeneration among his achlorhydria cases. Dr. MANSON-BAHR and Mr. NORBURY also replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND

A MEETING of the section of obstetrics was held on Feb. 3rd, with Dr. D. G. MADILL (in the absence of the president) in the chair. A communication on

Placenta Accreta

was made by Dr. BETHEL SOLOMONS and Dr. F. S. BOURKE. The cause of the condition, they said, was unknown, and it was very rare; there had not been one example at the Rotunda Hospital in the last 25,000 births. It could be diagnosed only when efforts to remove the placenta had failed, there being no line of cleavage. The consensus of opinion was that hysterectomy is the best treatment.

The case reported was that of a woman, aged 41, who in her first confinement lost a baby after a long and dry labour. The baby had died in utero about two days before it was born. On the present occasion she was about 36 weeks pregnant when liquor amnii began to come away. This loss continued for three days, but the cervix remained closed. After a consultation Cæsarean section was decided on. All attempts to remove the placenta failed entirely. There was no line of cleavage, and hysterectomy was done. The convalescence was without incident.

The CHAIRMAN said that placenta accreta had been described only in the last ten years, and he had never seen a case. He asked if the placenta in this case was low down in the uterus, or if it was in the fundal region. The only treatment in these cases was radical treatment. He thought it would be very difficult to make a diagnosis with the naked eye.

Chronic exhausting diseases, such as phthisis, were stated to have some connexion with the condition.

Dr. J. F. CUNNINGHAM considered that Dr. Solomons had been fortunate in being able to make the diagnosis fairly early, as Cæsarean section became necessary. In an ordinary case, he thought, the diagnosis would be difficult until an attempt was made to remove the placenta.

Dr. A. H. DAVIDSON said he had seen one case. He wondered if the condition were connected with some failure of the corpus luteum. Occasionally, in cases where manual removal of the placenta was needed, it proved possible to get a portion separated, while other portions would not come away. The chief difficulty was to know when to stop trying to take out the placenta. Radical treatment appeared to be the only treatment for the condition.

Dr. NINIAN FALKINER said he regarded placenta accreta in somewhat the same light as an ectopic pregnancy, because it undoubtedly was ectopic. The end-result of placenta accreta was that the chorionic elements were intertwined with the muscles of the uterine wall. This was the condition met with in ectopic pregnancy. He thought that in Dr. Solomon's case there must have been pre-existing inflammation.

Dr. SOLOMONS, in reply, said that the placenta was in the upper segment. When he said that the diagnosis should be made as soon as possible, he meant that in a case of pelvic delivery efforts to remove the placenta should not be persisted in, and radical treatment should be undertaken, as soon as the diagnosis of placenta accreta was made. Among explanations of the condition failure of the corpus luteum might always be thought of, but it was more probably due to an inflammatory condition of the endometrium by which chorionic elements could get between the glands to the muscle.

Dr. O'DONEL BROWNE read a paper on the Use of Pituitary Extract in Labour, and Dr. CUNNINGHAM a paper on Late Ectopic Pregnancy.

Chorion-epithelioma of Fallopian Tube

At a meeting of the section of pathology on Feb. 10th, with Dr. J. MCGRATH, the president, in the chair, Prof. T. T. O'FARRELL showed a specimen and reported the following case :—

A woman, aged 35, had been married 15 years and had two children, the last having been born 11 years previous to the present illness. Menstruation had been of the 28-day type and of five days' duration, the amount being heavy. Last period, Oct. 14th. Present illness: uterine hæmorrhage began on Dec. 5th, 1932; was not heavy, and lasted 14 days. There was no pain at this time, but there was slight pain in the lower abdomen during the following seven days. Hæmorrhage during this time became more marked, and before admission to hospital there was acute pain in the lower abdomen for 12 hours.

On admission (Dec. 26th) the patient was in a condition of shock; pulse-rate 125, temp. 97° F. There was acute tenderness and rigidity over the lower half of the abdomen, especially in the left iliac fossa. On vaginal examination the uterus was found to be small, hard, and in good position. A vague cystic mass was felt behind and on both sides of the uterus. At operation the pelvic cavity was seen to be filled with blood clot with a little fresh blood. The fimbriated end of the right tube looked as if an ectopic pregnancy had ruptured through the end. The right tube was removed. A large pyosalpinx was observed on the left side. The abdomen was closed, leaving a drainage-tube in position. Subsequent history: the lungs were radiographed with a negative result. The patient refused further operation and, after an uneventful recovery, left hospital in three weeks, not returning subsequently.

The lumen of the tube, Prof. O'Farrell said, contained chorionic villi of about the fourth week type, and at one point there was definite invasion of the musculature. At this spot typical villi were scanty, there was marked proliferation of Langhans's cells, many of which contained mitotic figures, and there were comparatively scanty syncytial masses. These structures occupied about four low-power fields of the microscope and were indistinguishable from chorion-epithelioma malignum. In discussing the case, Prof. O'Farrell asked his hearers by what criteria they would judge whether the specimen was an early malignant tumour or a benign condition.

The PRESIDENT said that cases of tubal pregnancy were frequently seen, and if chorionic villi were malignant, then all these cases would be malignant—which was not so. But he thought the present specimen was a chorionic epithelioma.—Prof. J. T. WIGHAM said it was usual to find some cystic condition of the ovary in cases in which there was chorionic epithelioma. He thought that if the ovary was found to have a normal corpus luteum on the affected side, that it would be rather against the idea that the condition was becoming malignant. He thought that chorionic epithelioma was either very rapidly malignant or else that it could be readily removed, when it proved to be histologically malignant but clinically non-malignant.—Dr. R. M. CORBET said he thought the luteinisation of the ovary was the effect of too much trophoblast. It was the deciduum which influenced the ovary, and not the ovary which influenced the deciduum.—Dr. BETHEL SOLOMONS thought it looked as if the condition were definitely locally malignant, and that the patient would not be troubled again. He had almost never, he said, seen malignancy after a simple hydatidiform mole.

Other specimens were shown.

NEW INVENTIONS

A NEW POCKET CO_2 SNOW OUTFIT

THE use of carbon dioxide snow in general practice for the treatment of nævi, warts, and other skin conditions has been greatly hampered by the inconvenience of obtaining the requisite supplies of CO_2, even the most "portable" apparatus being cumbersome, involving the carriage and transportation of

heavy cylinders. This deficiency has been remedied by a small attachment in nickelled brass and ebonite for use in conjunction with Sparklets J-size CO_2 "resuscitator." The whole forms an outfit for CO_2 snow that can with truth be described as of pocket size. The attachment is screwed into the holder, by which action the 6 in. long "bulb" of CO_2 is pierced, so that the escaping gas forms the snow in the expansion chamber from which it is moulded and compressed by means of the ebonite spatula supplied. Each "bulb" of CO_2 will provide a rod of solid snow about $1\frac{3}{4}$ in. long and $\frac{3}{8}$ in. in diameter. The apparatus is held pointing vertically downwards, so that the CO_2 may be emitted into the expansion chamber in its liquid form. The bulbs are inexpensive, empties are returnable for refilling and—most important—can be sent by post. The whole apparatus measures about 10 in., and the accompanying illustration shows its essential simplicity.

The attachment is made by Sparklets, Angel-road, Upper Edmonton, N.18.

S. SHONE, M.D., M.R.C.P.

REVIEWS AND NOTICES OF BOOKS

Pastoral Psychiatry and Mental Health

By JOHN RATHBONE OLIVER, D.D., M.D. London: Charles Scribner's Sons. 1932. Pp. 330. 8*s*. 6*d*.

THE issue of such a book as this will not meet with universal approval among doctors. It is addressed to "persons without definite medical training and experience whose work brings them in touch with the mental illnesses and maladjustments of their fellow men," in the hope that it will help them to recognise and handle such cases. It certainly provides a fairly sound and simple account of the familiar mental disorders, their causes and treatment. It is particularly meant for clergymen, and the author's qualifications for writing it are that he is a Catholic priest as well as a practising psychiatrist. The value of religion in the prevention and treatment of mental disorder is constantly stressed. The exposition of psychiatry here is for the most part in conformity with modern teaching, and would be of assistance to the chaplain of a mental hospital or to a court missionary. Spiritual directors of the Roman Catholic church already have their manuals, here enumerated in an excellent bibliography. The author often expresses his debt to these works, most of them written by Jesuits. There is much clinical documentation throughout the book. There are two temperate chapters on sexual factors and a final chapter on religious faith and practice.

It is probable that the book will be used by many untrained social workers, attached to churches and charitable bodies, who will accept the statement on its dust-cover that it can be easily and thoroughly understood, and that it will enable them to "supply accurate scientific help to the bewildered, the mentally sick, and the profoundly maladjusted." This is certainly not a safe assumption: amateur book-learnt therapy is as risky and ineffective in psychiatry as in other branches of medicine.

The Physical Mechanism of the Human Mind

By A. C. DOUGLAS, M.D., Ch.B. Edinburgh: E. and S. Livingstone. 1932. Pp. 251. 15*s*.

THE pursuit of neurological explanations of behaviour continues to occupy the minds of observers who attempt a unification of all the data concerning living things. It is only natural that those who have been brought up on anatomy and physiology should find it irresistible to picture behaviour in terms of neural process. The growth of our knowledge of the nervous system has produced such a nicely woven fabric of neural paths, from the simple mechanisms governing digestion and the expression of emotion to the mechanism of speech itself, that it would appear sufficient to rest all explanations of behaviour upon neural mechanisms. It certainly introduces a simplicity which the logical mind desires for the sake of economy in the use of concepts. The use of concepts, however, belongs to the world of ratiocination and when we turn from logic of thought to the logic of values, whether they be moral or æsthetic, we find that the neural explanation becomes little more than a diagrammatic scheme of a process which is constantly concerned with growth as new situations are faced.

In the first half of this admirable neurological exposition the reader feels completely satisfied, but when the author enters the domain of perception, association, belief, will, and imagination, the scheme breaks down, and what was at first a translation of mind into the language of physiology becomes little more than a synopsis, a skeleton from which the essential structures have been removed. The author does not reach the first manifestations of behaviour in reflex actions, but finds the reflex actions precipitations of purposes which have become stereotyped along neural paths. The concept of Value, which so frequently appears in the last 50 pages of this book, can have no neurological counterpart. It is not that neurology is by any means mistaken in its description but that it is insufficient as an explanation. It may be methodologically sound to separate mind from body, but it is a gross elimination of the facts of experience to ignore the processes which have no physiological counterpart and which cannot be squeezed into a neurological scheme the very vocabulary of which is so frequently borrowed from the world of psychology.

Entstehung, Erkennung, und Behandlung innerer Krankheiten

I. Band. *Pathologische Physiologie.* XIVth Edition. By LUDOLF KREHL, Professor in Heidelberg. Berlin: F. C. Vogel. 1932. Pp. 716. R.M.39.60.

Prof. Krehl's momentous work has now reached its fourteenth edition. The whole field of human physiology is covered from the standpoint of variations and disorders. The processes that underlie the causation of disease and form the foundation of all diagnosis and treatment are fully discussed. Throughout the work the author's critical refusal to accept unproved hypotheses stamps him as one whose sincerity of purpose fits him to be a teacher of advanced students. He does not hesitate to express his own views with emphasis, though without dogmatism, but the opinions of others are carefully reviewed. Over 2000 references to original papers are supplied. This work on the origins of disease provides a link between physiology and clinical medicine. It may not lessen the difficulties of the practitioner in understanding and explaining the production of symptoms and signs, but it will emphasise in his mind the gaps in our knowledge, and will prevent him from drawing facile conclusions from insufficient data.

This work is a standard reference book of a kind which clears the way for the advance of medicine.

Diseases of the Skin

By the late ROBT. W. MACKENNA, M.A., M.D., B.Ch. Edin. Third edition, revised and enlarged by ROBT. M. B. MACKENNA, M.A., M.D., B.Ch. Camb., Hon. Dermatologist, Liverpool Heart Hospital and Stanley Hospital. London: Baillière, Tindall and Cox. 1933. Pp. 506. 25*s*.

WE reviewed the second edition of this now standard work six years ago; the revision and amplification of his father's work necessitated by advances in dermatology since that time have been admirably carried out by Dr. R. M. B. Mackenna. Some 50 pages have been added to the text, and the number of coloured plates and illustrations has been increased. The section on the seborrhoides and seborrhœic dermatitis (p. 189) has been rearranged according to modern ideas and to alteration of bacteriological nomenclature, and it is to be hoped that biochemical discoveries will demand further amendment of this section in a future edition, for the pityrosporon of

Malassez is only one of the factors involved in the ætiology of this widespread and troublesome affection.

The section on the treatment of syphilis remains unaffected by recent controversy, for, as the author says, "there is no routine treatment for syphilis." A schedule of treatment is unfortunately necessary, but it must not be too closely followed, and the interests of the individual patient must always be paramount. For this reason some dermatologists may criticise the suggested administration of six consecutive weekly injections of 0·9 g. N.A.B. to the average adult male as being rather a strain on the liver and the excretory mechanism, and apt to lead to exfoliative dermatitis, the "formidable complication . . . most likely to occur in cases subjected to intensive treatment." Similarly, the treatment of chronic sycosis barbæ by painting small patches at a time with the liquid acid nitrate of mercury (p. 53) seems rather a drastic measure to recommend to the practitioner. Dr. Mackenna has published several interesting observations on the treatment of lupus erythematosus by bismuth salts, which, in his opinion, is the method of choice. Gold compounds should be reserved for the cases which fail to respond to the bismuth therapy, which has at least the advantage of comparative safety. This section and the illustrations which accompany it are well worthy of consideration and study.

This text-book is well up to modern standards, and will doubtless remain popular.

Classic Descriptions of Disease

By RALPH H. MAJOR, M.D., Professor of Medicine, University of Kansas School of Medicine. London: Baillière, Tindall and Cox. 1932. Pp. 630. 30s.

THIS book is a collection of classical descriptions of disease selected by Prof. Major, and biographical sketches of the authors are included. The choice is mainly on clinical grounds and is a very wide one, as it embraces the work of 179 different authorities ranging from Hippocrates and the Papyrus Ebers to observers still alive. There are 130 illustrations.

The subject matter is arranged under ten headings. The first section deals with infectious diseases—namely, syphilis, tubercle, plague, tetanus, diphtheria, typhus, typhoid, scarlet fever, small-pox, measles, influenza, sweating fever, chicken-pox, whooping-cough, rheumatic fever, relapsing fever, sleeping sickness, Schönlein's disease, and finally focal infection and Hodgkin's disease. Diseases of metabolism include diabetes, thyroid disease, tetany, gout, pernicious anæmia, Paget's disease, achondroplasia, osteomalacia, myositis ossificans, acromegaly, Fröhlein's disease, and persistent thymus. The next section deals with lead poisoning and the remaining ones with diseases of the circulatory system, the blood, kidney diseases, respiratory diseases, deficiency diseases, and diseases of the digestive tract.

In the preface Prof. Major makes a graceful acknowledgment of the help he has received from others in his formidable task. Largely no doubt through the labours of Sir Humphry Rolleston, Caleb Hillier Parry of Bath here receives the just merit due to him for having been the first to describe hyperthyroidism. It may interest English readers also to hear that William Cowper, while not the first to describe the urethral glands named after him, appears to have been the first to describe and figure disease of the aortic valves in a paper contributed to the Philosophical Transactions of 1706. The notice of Richard Morton (1637–1698) omits to mention his recognition of herpes simplex as a specific febrile disease—a very remarkable achievement to which Levaditi has drawn attention. We are told that Kussmaul in 1874 was the first to employ thoracentesis, but the late Sir Norman Moore used to ascribe that honour to John Locke, the great philisopher, who was an M.B. of Oxford, and at one time had charge of a patient suffering from a pleural effusion.

Prof. Major's book was evidently a labour of love. It is compiled with much care and will be of considerable service to those who wish to have historical contributions to clinical medicine in a readily accessible form.

L'année thérapeutique

By Dr. A. RAVINA. Sixth and seventh years, 1931 and 1932. Paris: Masson et Cie. Pp. 182 and 176. Fr.16 per vol.

THE series of "L'année thérapeutique" has now reached its seventh year, having been started in 1921, but interrupted in 1924 by the death of the former editor, Dr. Cheinisse. The object of these little volumes is to provide a summary of new work in treatment, of new methods, and of changes taking place in the whole field of therapeutics. Dr. Ravina has not limited himself to one branch of medicine, but has divided the subject into three sections: the first on diseases and symptoms, the second on methods of treatment, and the third on new drugs. In all such works the difficulty lies essentially in evaluating recent work. Dr. Ravina has, for the most part, contented himself with summarising numerous papers published, principally in France and Germany, without offering criticisms or judgment upon their value. Many of the papers referred to will be new to English readers, and the results recorded will not be too readily accepted.

In the last volume (1932) the "new" drugs mentioned include the mercurial diuretics, nembutal, hæmolytic and antistreptococcal sera, and extracts of convallaria and adonis in heart disease. In pulmonary tuberculosis Dr. Ravina regards sanocrysin treatment as established. Other methods described include the use of atebrin in malaria, suprarenal cortical extracts in Addison's disease, liver extract injections in pernicious anæmia, and many other less well-known innovations. Some of these such as the apple cure in infantile diarrhœa, ovarian extract treatment of hæmophilia, the use of pancreatic extracts in scleroderma and Ménière's disease will strike the English reader as requiring further confirmation.

Books in this series contain information that cannot easily be found elsewhere in collected form, and if read with proper caution and perspective should be of real help to practitioners.

Animal Diseases in South Africa

By M. W. HENNING, Professor of Veterinary Science, University of Pretoria. South Africa: Central News Agency. 1932. 2 vols. Pp. 405 and 469. 50s.

THESE volumes are confined entirely to animal diseases of economic importance, including bacterial, protozoal, and virus diseases, those due to poisonous plants, and deficiency diseases. For the greater part Prof. Henning has followed the orthodox teaching given at the laboratories for veterinary research established under the department of agriculture of the Union of South Africa at Onderstepoort. The work has indeed been produced primarily for veterinary students in South Africa, who have already studied pathology and bacteriology in detail, since familiarity with these subjects is assumed. It should also be

welcomed by field veterinary officers, and its easy style and interesting historical descriptions of diseases should give it a wider public among stockowners. Much of the material has hitherto been available only in journals; this applies more particularly to the filtrable virus and plant poison sections.

The pattern adopted for each disease is to discuss causal organism, susceptible animals, methods or suggested methods of transmission, geographical distribution in South Africa, and their symptoms, course, lesions, diagnosis, treatment, and prevention. Considerable space is devoted to prophylactic inoculation. Measures for State control are included in descriptions of "scheduled" diseases, and the reasons of their enforcement are explained. If farmers would take the trouble to read these sections they might grow more eager to coöperate with the Ministry of Agriculture. Throughout the book disease control is regarded from the point of view of the State and of the herd, very little space being allotted to the treatment of individual animals. This doctrine is in keeping with the ranching type of farming practised in South Africa. It is unfortunate that a subject of such economic importance as parasitology should have been omitted entirely. A third volume repairing this omission would be a valuable addition.

A text-book dealing with disease economically important in one country must have a message outside its range. This work is of real value in collecting and setting forth the results which have been attained by Sir Arnold Theiler and his co-workers at Onderstepoort. The section on plant poisons forms an excellent addition to the literature of a subject much neglected in veterinary works.

The Early History of the Infant Welfare Movement

By G. F. McCLEARY, M.D. Cantab., D.P.H., formerly a Deputy Senior Medical Officer, Ministry of Health; Medical Officer of Health, Battersea. London: H. K. Lewis and Co., Ltd. 1933. Pp. 176. 6s.

BROADLY speaking, the infant welfare movement came into being at about the end of the nineteenth century, and Dr. McCleary, one of the pioneers of the movement in this country, has written an illuminating account of its early history, which he divides into two periods, the first up to June, 1906, when the first conference on Infantile Mortality was held in London, and the second up to the next conference in 1908. A concluding chapter summarises the events between 1908 and 1914. Dr. McCleary wins the reader's gratitude by an admirable gift of selection; he has produced an essentially complete record without ever becoming tedious or overloading his chapters with unnecessary detail. Amongst forerunners of the infant welfare movement, William Cadogan (1711–1797) and George Armstrong, who in 1769 founded a "Dispensary for the relief of the Infant Poor," are quoted for their modern views and active work on behalf of infancy, while John Brunnell Davis (1780–1824) was the first advocate of health visiting. The great debt of child welfare to French physicians, among whom Pierre Budin will always hold first place, is well set out, as is the contribution of America towards securing a satisfactory milk-supply, the two outstanding figures in this campaign being Nathan Straus, the apostle of pasteurisation, and Henry Leber Coit, to whom the introduction of certified milk was due. Dr. McCleary was himself responsible for the first infants' milk depôt in London, opened in Battersea in 1902, when he was medical officer of health of that borough. The inception and development of a health visiting service, of schools for mothers, infant consultations, meals for nursing mothers, and other features of child welfare work make an interesting record, and the reader is introduced to an imposing gallery of pioneers—Alderman Benjamin Broadbent, Drs. A. K. Chalmers, Drew Harris, J. W. Ballantyne, J. F. J. Sykes, Sir George (then Dr.) Newman, Dr. S. G. Moore, Sir Arthur (then Dr.) Newsholme, Dr. Eric Pritchard, and others whose names are household words among child welfare workers. In his final chapter Dr. McCleary discusses the question how far the decline in infantile mortality in the period covered by his record may be attributed to the infant welfare movement, and makes out a good case for regarding this as probably the most potent, though certainly not the only, cause for the improvement achieved. A double index, one under names and the other under subjects, adds to the value of this well-written book.

British Journal of Children's Diseases

To the January–March number Dr. W. G. Wyllie and Dr. Bernard Schlesinger contribute a paper based on 80 cases on the Periodic Group of Disorders in Childhood, in which they include bilious attacks, cyclical vomiting, ketogenic or acetonæmic vomiting, recurrent pyrexial attacks, and migraine. The periodic attack is manifested clinically by a syndrome composed of vomiting, abdominal pain, headache, and fever. In some instances vertigo, rise of blood pressure, lapses of consciousness, and convulsions are observed. In a large number of cases there is a history of a similar complaint in other members of the family or in the childhood of one or other parent. The latter may suffer from biliousness or migraine in adult life. The influence of heredity is more often found on the maternal side, though in the writers' series migraine in the father was not uncommon. Asthma occurs in a considerable proportion of such families, so that the question of an allergic factor in the make-up of children suffering from the periodic group of disorders has been raised. From a study of the effects of a ketogenic diet and the results of liver function tests in normal children and subjects of the periodic syndrome the writers conclude that the primary factor underlying the occurrence of the syndrome is of nervous origin.—Dr. F. Parkes Weber and Dr. T. R. Hill relate a Case of Cerebral Obesity Due to Chronic Encephalitis Lethargica in a boy aged 11, with a description of the appearance of the brain after death, which was characteristic of long-standing cases of the disease as described by other writers.—Dr. W. M. Feldman and Dr. A. Chalmers report a Case of Complete Transposition of the Great Vessels of the Heart with a Patent Foramen Ovale, in which the points of interest during life were the variable intensity of the cyanosis which at times was very slight, the relatively slight polycythæmia, and the comparative paucity of the leucocytes.—Dr. W. J. Rutherfurd records a Case of Hereditary Knock-knee, with Recurrent Dislocation of Patella and Aplasia of Nails in Fingers and Toes. The knock-knee was not rickety but was inherited, five cases having occurred in three generations. Every affected member of the family showed aplasia of the finger- and toe-nails, but other members of the family had similar affections of the nails without the bony deformity. Hereditary aplasia of the nails though rare was mentioned by Theophrastus in the third century B.C. in his description of the Nasty Fellow.—Dr. E. W. Goodall gives an account of three cases in which an Eruption of Petechiæ Followed Attacks of Vomiting.—The abstracts from current literature are devoted to tuberculosis.—A preliminary programme of the Third International Pædiatric Congress, which will be held in London from July 20th to the 22nd, will be found in this issue.

THE LANCET

LONDON: SATURDAY, MARCH 11, 1933

SPONTANEOUS HYPOGLYCÆMIA

THE level of the blood-sugar at any given time depends on the amount of sugar entering and leaving the blood stream, and it is maintained within normal limits principally by the action of adrenaline and insulin—the thyroid and pituitary hormones probably playing a less important part. Thus a rise of blood-sugar due to absorption of glucose from the alimentary tract, or from any other cause, will result in a secretion of insulin which will rapidly bring the blood-sugar back to normal or slightly subnormal levels, whilst a fall in blood-sugar, or increased peripheral oxidation—e.g., in active exercise—will call for liberation of more adrenaline. The action of adrenaline is to mobilise the glycogen stored in the liver, and where the functional activity of the liver is much impaired—as in severe ketosis or toxæmia, or extensive hepatic disease—there may be both an abnormally poor response to adrenaline and also delay in storing carbohydrate absorbed from the gut. Similarly, when the glycogen stores of the liver have become depleted—which readily happens in most young animals, including children—increased calls for glucose may cause a temporary breakdown of the sugar-regulating mechanism, and the result will be a moderate degree of hypoglycæmia. The reason why the breakdown is only partial, even after prolonged starvation, is that the liver obtains glycogen from sources other than carbohydrate (glyco-neogenesis), and this method of "living on capital" prevents the blood-sugar from falling too far.

It will be clear that over-secretion, or unopposed action, of insulin or adrenaline will tend to produce hypoglycæmia or hyperglycæmia respectively. The clinical features of hyperglycæmia have been familiar to physicians since the dark ages, because at a certain point excess of sugar passes into the urine, where it may be recognised by the sense of taste or by more modern tests. Hypoglycæmia, on the other hand, provides no such simple clue, and its occurrence has only been known since injection of insulin has made it possible to appreciate the symptoms. These prove to be very various, and it is evident that minor degrees of hypoglycæmia are likely to remain undiagnosed unless the clinician is on the watch for them. Amongst the commonest are sweating, incoördination, and an inexplicable sense of fear; sometimes the incoördination may be so conspicuous as to suggest alcoholic intoxication. Dr. HECTOR CAMERON [1] has pointed out that in children night terrors, nervous instability, and disturbances of sleep may sometimes be alleviated by the judicious administration of glucose, and in adults it is more than probable that the wide popularity of the cocktail before a meal is in part due to the relief of hypoglycæmia which it brings. The exhaustion of athletes, again, often responds rapidly to the administration of easily assimilable carbohydrate. Here, of course, we are dealing with more or less physiological variations; but the theoretical prediction that a pathological state of hyperinsulinism, comparable to hyperthyroidism or hyperpituitarism, would be recognised has now been justified and a number of examples have been described. Where post-mortem examination or operation has shown the condition to be due to lesions of the pancreas, these lesions have usually proved to be malignant. In other cases, however, such as the one just reported by DERICK and others,[2] an adenoma of island-of-Langerhans type was found and was removed with relief of symptoms. In our present issue, Dr. W. J. GRIFFITHS and Prof. O. L. V. DE WESSELOW record an example of what they regard as "dysinsulinism," and give reasons for thinking that the symptoms are most easily explained by new growth or diffuse hyperplasia of the islet tissue of the pancreas—in spite of an anomalous response to the glucose test-meal. These conclusions are criticised by Dr. P. J. CAMMIDGE and Dr. E. P. POULTON, who put their emphasis on the hepatic element in this and some other cases.

The reader in search of a general survey of hypoglycæmia will find it in the current issue of the *Quarterly Journal of Medicine* (p. 117), where Dr. GLADYS M. WAUCHOPE reviews the subject as a whole. She classifies it in the following categories:—

1. *Excess of insulin*, arising from therapeutic injections, tumours and hyperplasia of the pancreas, and so-called functional hyperinsulinism.
2. *Lack of opposing secretions* from disease of the suprarenal glands, pituitary tumours, and myxœdema.
3. *Lack of glycogen* owing to destruction of the reservoirs—viz., hepatic disease or wasting of muscles—abnormal excretion of sugar due to a lowered renal threshold or lactation, depletion of glycogen stores from active exercise, and failure to replenish them from starvation.
4. *Interference with the regulating centre*, as in nervous disorder affecting the pons, or overaction of the vagus.

In several of these conditions it is admittedly difficult to prove cause and effect, and the interpretation is somewhat speculative. It appears clearly that there is no blood-sugar level at which symptoms of hypoglycæmia regularly manifest themselves, and that a rapid fall in blood-sugar will produce them at a much higher level than if the fall is gradual. Indeed, chronic hypoglycæmia may be associated with very little disturbance, or may be found only on routine examination, whilst an excessive dose of insulin may produce symptoms in a diabetic if it results in a rapid fall of blood-sugar to a level that would normally be considered hyperglycæmic. It is surprising to find that WAUCHOPE gives as high a level as 0·08 to 0·07 per cent. as the usual level for the onset of clinical hypoglycæmia, although it is pointed out that the

[1] Brit. Med. Jour., 1930, ii., 717.

[2] Derick, C. L., Newton, F. C., Schulz, R. Z., Bowie, M. A., and Pokorny, N. A.: New Eng. Jour. Med., Feb. 9th, p. 293.

difference in methods of blood-sugar estimation makes it difficult to compare the results of different observations, and that the level is generally lower in childhood.

Though certain broad generalisations are being formed it is obvious that the interpretation of the individual case of hypoglycæmia will remain largely a matter of medical polemic until the action of the hormones regulating carbohydrate metabolism is more precisely understood.

THE PHARMACY AND POISONS BILL

CHANGES in the profession of pharmacy and in the law of poisons are projected by the Pharmacy and Poisons Bill (H.M. Stationery Office, 6*d*.) which has been introduced in the House of Lords. The report of the Departmental Committee of 1926 regretted that these two subjects were so curiously entangled in the statute-book. The new Bill seeks to simplify the law. Like its predecessor in 1931, it is based on the draft Bill appended to the 1926 report; but there are occasional new features—e.g., the proposed prohibition of the sale of any poison from an automatic machine. The 1931 Bill passed through the House of Lords in spite of opposition from Lord DAWSON OF PENN, who complained that there had been too little consultation of the medical profession, and that the control of poisons, hitherto managed with success by the Pharmaceutical Society, was being handed over to a new bureaucratic body imperfectly acquainted with the needs of medicine. In the Commons the Bill made no headway. Its successor deserves a better fate, for the existing law is full of anomalies. Last September a man was found dead on Porlock Hill in Somerset with enough arsenic in his pockets to kill 642 persons. He worked for a paint firm, and poison was easy to get. "I could not go to a chemist's and buy 5 grains of arsenic without giving a convincing explanation," said his employer; "but I can write an order for 5 hundredweight and have it delivered here in a couple of hours without having to answer a question."

The pharmacy clauses early in the new Bill give membership of the Pharmaceutical Society to registered pharmacists; it will no longer be a matter of election. Names will be removed from the register for good cause through the agency of a Statutory Committee, subject to a right of appeal to the High Court. In this part of the Bill the Privy Council remains the central authority. A registered pharmacist who retails drugs will become an "authorised seller of poisons," provided that he or another registered pharmacist is in personal control of the premises, and of each set of premises, where the retailing is carried on, and provided that the name and certificate of registration of the person in control is conspicuously exhibited. No unregistered person is to call himself "pharmaceutical chemist," "chemist and druggist," "druggist," or "pharmacist." The difficulty of thus restricting the title of "chemist," which members of the Institute of Chemistry have a right to share, is met by legislating only as to that title if used in connexion with the sale of goods by retail. The clauses about poisons, later in the Bill, propose considerable changes. As the departmental committee proposed, and in spite of Lord HEWART's suspicions of encroachment upon Parliamentary functions, the Poisons List is to be taken out of the statute-book and left to be settled by a Poisons Board of 16 or more members including representatives of the Pharmaceutical Society, the Royal Colleges of Physicians, the General Medical Council, British Medical Association, and Institute of Chemistry, as well as nominees of the Home Office, Scottish Office, and Ministries of Health and Agriculture. The Poisons List, to be prepared by the Poisons Board and confirmed by the Home Office, will be in two parts. Part I. poisons will be saleable only by "authorised sellers of poisons"; Part II. will contain those which can be sold only by such "authorised sellers" or by persons on the local authority's list, the latter list corresponding to the present list of persons locally authorised to sell poisonous preparations used for agricultural and other non-medical purposes. The Poisons Board will have a free hand; their sole statutory guidance is the suggestion that they shall restrict Part II. to articles which are in common use "for purposes other than the treatment of human ailments," and which the public should have adequate facilities to obtain.

The proposed restrictions on the sale of poisons are partly set out in the Bill and partly left to Home Office rules. Except as provided by the rules (a rather vague exception which will require vigilant scrutiny), this part of the Bill is not to interfere with the sale of articles to duly qualified doctors or to registered dentists or veterinary surgeons for professional use or with sales to approved hospitals or to research workers for use in research. Amongst other conditions, it will be unlawful to sell a poison unless its container is labelled with the name of the poison, the proportion of the poisonous ingredient to the total ingredients, the name and address of the seller, and the word "poison" *or other prescribed indication of the character of the article*. The words which we have italicised seem to be new law. Unless rules relax the requirement, a Part I. poison must not be sold to anyone unless he is either "certified in writing" (more new law) or known to the seller to be a person to whom the poison may properly be sold. The seller of the Part I. poison must not deliver it until he has entered in a book (with the purchaser's signature) the name and address of the purchaser and of the person who certifies the purchaser. These special provisions as to sale of Part I. poisons however, are not to apply to medicine supplied by duly qualified doctors, registered dentists, and registered veterinary surgeons for professional treatment. A rather complicated subclause about book entries of all prescriptions containing poisons has a saving for medicine supplied on prescription under the National Health Insurance Acts. The Bill seeks to protect the public; poisons are not to find their way too easily into the wrong hands. At the same time, Parliament must so fashion the Bill that medical practice and research are not made too difficult.

CARRIERS OF ENTERIC

In Great Britain the abolition, with rare exceptions, of gross contamination of water-supplies has reduced morbidity and mortality from enteric fever to small proportions. But this fall in incidence has, if possible, enhanced the importance of chronic carriers who are now the chief causes of epidemic outbreaks both in the community at large and in institutions. Prof. C. H. Browning and his associates in Glasgow have therefore rendered a valuable service in undertaking to report [1] upon this problem in the light of their own researches and those of others.

Enteric carriers may be classified according to the duration of the carrier state, and also according to the route of excretion of the specific organisms. It has been shown that, in paratyphoid B infections especially, the incidence of *temporary* carriers in convalescence is high, and the report therefore lays stress on precautions against the spread of infection during the convalescent period. In some cases the carrier state may set in several months after convalescence, and its occasional intermittency is also a factor which adds to the difficulties of control; intervals of infectivity "may be separated by non-infective periods of years." Most of those who continue to excrete bacilli for six months after the acute attack will continue to do so. Those who still excrete after a year, fortunately a small proportion only, will not clear spontaneously; the carrier state becomes *chronic* or permanent. The chronic carrier after a known attack of enteric fever is sufficiently dangerous, but in the investigation of an outbreak the history of the illness at least provides a clue to a possible source of infection. More dangerous, because more elusive, is the chronic carrier who has had no known attack or whose carrier state is intermittent. The two main routes of excretion are fæcal and urinary; it is also well recognised that bone sinuses, or subcutaneous abscesses, may continue to yield pure cultures for long periods. The chronic fæcal carrier or excreter is "usually a married woman of 30 years of age or upward." Female chronic carriers exceed male carriers in the proportion of four or five to one. Children rarely become chronic carriers, but are important agents in dissemination because the attack is so often mild and atypical. Fæcal carriers, who are occasionally "mixed" carriers of *B. typhosus* and *paratyphosus*, are far the most numerous class and may be further subdivided into the biliary carrier (gall-bladder or liver and bile-ducts, or both) and the rare true intestinal carrier. Although chronic cholecystitis, usually but not always associated with gall-stones, has been found in a large proportion of fæcal carriers, cases have occurred in which the biliary system could be held blameless, the focus being strictly intestinal. Not only may gall-stones be absent but the gall-bladder may show comparatively slight naked-eye changes such as thickening of the mucosa. Histologically, the most marked change observed by the authors of the report consisted in "localised and diffuse collections of cells in the mucosa, which are mainly plasma cells and lymphocytes with scanty eosinophiles." They think there is considerable support for Garbat's view that the gall-bladder in these carriers acts as "a test-tube containing the bile medium in which the typhoid bacteria propagate without affecting the gall-bladder itself." Urinary carriers, although less numerous, are clearly more dangerous than fæcal carriers. Not only are the opportunities for spreading infection greater, but the organisms occur in large numbers in the urine and not uncommonly in pure culture. The nidus of infection appears to be "most commonly situated in the kidney or kidney pelvis." That one kidney only may be infected has been shown by means of ureteral catheterisation and the clearance of the carrier state after the removal of the unilateral lesion.

Apart from careful treatment and nursing and the provision of a high calorie diet during the acute and convalescent stages, is it possible to prevent or lessen the possibility of the patient becoming a carrier? Prophylactic inoculation diminishes the incidence of clinical attacks. When attacks do occur in the inoculated they tend to be slight, and it has been held by some that carriers after such modified attacks are less numerous. Others, however, have not been able to confirm this. General anti-enteric inoculation of any population liable to exposure is not practicable in peace-time. But the same measure applied to closed communities such as the staff and inmates of mental hospitals is not only practicable but highly desirable. Prof. Browning and his colleagues point out that although this measure be adopted the carrier must still be searched for and treated, since amongst the recently vaccinated massive infection may yet result in an epidemic. It is well known also that the protection afforded by inoculation with T.A.B. tends to wane after a year, and to secure full protection thereafter the process must be repeated. It is advised that in addition to bacteriological evidence of freedom from infection before discharge of a case from hospital, examinations should again be made six to twelve months later, compulsory powers being exercised by all authorities in order to obtain the necessary specimens from convalescents and suspects. In Scotland, under Article 13 of the Public Health (Infectious Diseases) Regulations, 1932, it is possible to notify and to remove compulsorily a carrier, subject to the certificate being renewed every three months. In England powers exist merely to prevent enteric carriers from being concerned in the preparation or handling of food or drink for human consumption. In America regulations for the control of carriers are much more comprehensive and drastic. The authors of the report consider that the existing accommodation, usually an isolation hospital, for the investigation and

[1] Chronic Enteric Carriers and their Treatment. By C. H. Browning, with H. L. Coulthard, R. Cruickshank, K. J. Guthrie, and R. P. Smith: Medical Research Council, Spec. Report Series No. 179. London: H.M. Stationery Office. 1933. Pp. 80. 1s. 6d.

treatment of carriers involving bacteriological, radiological, urological, and operative procedures is not adequate. This is certainly true of many small fever hospitals, but several of the large institutions already possess, or can readily provide, the necessary facilities.

In the treatment of the chronic fæcal carrier chemotherapy, physiotherapy, and the administration of *B. acidophilus*, with a view to changing the reaction of the intestinal flora, alike proved ineffective. Vaccine therapy, including Besredka's oral bile-vaccines, produced no better results. Where the gall-bladder is the site of infection cholecystectomy has been successful in terminating the carrier state in 75 per cent. of cases. Failures may have been due to the fact that the patients were purely intestinal carriers who cannot be detected with certainty before operation. It seems clear that just as the chronic carrier state in diphtheria is most certainly terminated by the removal of infected tonsils and adenoids, so surgical measures offer by far the best chance of success for the cure of the chronic enteric carrier. In both conditions much expenditure of time and money will be saved when this fact is generally recognised.

ANNOTATIONS

THE HUME LECTURES

IN opening the review, of which we publish the conclusion this week, Mr. H. Morriston Davies said it seemed to him a fitting tribute to the memory of George Haliburton Hume that the subject matter selected for the first lecture on surgery under his name should be thoracic surgery. A contemporary of Lauder Brunton and a pupil of Syme, Hume witnessed the complete development of Listerian methods; to his knowledge obtained in this country, he added that acquired by prolonged visits abroad, notably in Berlin and Vienna. Hume was on the active staff of the Royal Infirmary, Newcastle-upon-Tyne, for 34 years, and as chairman of the staff took a prominent part in the building of the new Infirmary, being instrumental in obtaining a gift of £100,000 from Mr. John Hall and many other contributions. He was three times president of the Northern Counties Medical Society, and the esteem in which he was held was manifested by the society commemorating his name by endowing the George Haliburton Hume lectures. The interest taken by Hume in surgery and in its progress made it right, said Mr. Morriston Davies, to pause a moment to consider why the advance of chest surgery lagged so far behind the surgery of other parts of the body. The first real advance in surgical treatment was made possible by the discoveries of Lister; the terrors were in great part allayed by the introduction of antiseptics and of narcotics. Operative treatment became a practical science and advanced with rapidly increasing strides. Operations on the abdomen, on the limbs, and on the head and neck, ceased to be those only of urgent necessity.

The brain alone, other than the thorax, resisted for a time an increasingly successful response to surgical skill. Soon however the mechanical conditions of the skull and brain became understood while the thorax remained not Victorian but pre-Victorian in its imperviousness to modern methods; unresponsive to surgical skill, repaying usually by the death of the patient any efforts more heroic than those of previous decades—one might almost say centuries. The last 15 to 20 years had, however, seen a change almost incredible in its rapidity. The surgery of the chest had suddenly ceased to be a dark reproach on this science; it had become instead an illuminating example of what could be accomplished once the fundamental principles of anatomy, of physiology, and of the mechanical peculiarities of the region, in addition to the pathology of the disease, were understood.

In pulmonary tuberculosis the value of surgical treatment has long passed the experimental stage. Collapse therapy, as Mr. Morriston Davies remarks in his summing up, will save life, in many cases restoring the individual to working capacity. For many it will enable healing to take place and will shorten the period of treatment. The more drastic forms of this therapy may give individuals life and health otherwise unobtainable, but in the matter of thoracic surgery, he adds, this country is still sadly behind America, Scandinavia, and other continental countries. Only Wales and a few counties, it seems, give their tuberculous patients every modern aid in treatment, but there are indications of a rapid change. A recent meeting of the West London Medico-Chirurgical Society was given up entirely to discussing artificial pneumothorax and Dr. F. E. Saxby Willis laid down clearly the indications for its employment. The director of the Michigan State sanatorium for tuberculosis has recently given his conclusion [1] that the majority, not the minority, of cases of active pulmonary tuberculosis are suitable for collapse therapy in some form; and very striking is the allocation of two whole numbers [2] of an important French journal to the surgical treatment of pulmonary tuberculosis, one of these numbers containing an admirable summary of the work of Prof. J. Sebrechts at the Hôpital St.Jean at Bruges. The editorial committee of the journal points out that the experience of the last few years is pointing in rather a new direction. The surgeon, instead of embarking at once on a total thoracoplasty, is attempting to achieve various forms of partial collapse more strictly adapted to the particular lesion before him. At Bruges in particular Sebrechts has concentrated on the obliteration of apical cavities by apicolysis; in Davos where the technique of collapse has been brought to a high degree of efficiency by intrathoracic division of adhesions, Dr. G. Maurer never omits to emphasise the fact that every method must be considered in every case. It is no longer a question of the routine application of the method of Forlanini or the method of Sauerbruch. The Hume lecturer has given a lead in the application of means to ends in the practice of thoracic surgery.

THE SMALL-POX PROBLEM IN SWEDEN

DURING the last few years the problems of small-pox and vaccination have been considered in Sweden in view of the occurrence there of cases of small-pox and the doubts raised by certain untoward incidents associated with vaccination both at home and abroad. These events were the subject of comment in the Swedish Riksdag as well as in the press, and in 1930

[1] Jour. Amer. Med. Assoc., Feb. 4th, p. 315.
[2] Arch. Méd.-Chir. de l'Appareil Respiratoire, 1932, Nos. 5 and 6.

a Government commission was appointed to investigate. The work of this commission was completed last November, and its report has just been published. Much of it is a summary of observations made abroad, but the members of the commission have all the time kept in mind the bearings these observations may have on their own country. In *Nordisk Medicinsk Tidskrift* for Feb. 4th Prof. A. Lichtenstein, one of the commissioners, publishes a summary of the report, and in the same issue of the journal appears a paper by Dr. E. Abramson of Stockholm on the problem of vaccination in Sweden. It appears from Prof. Lichtenstein's summary that while vaccination legislation has been extensively revised in many countries since the Great War, there has been a general tendency to retain compulsory vaccination for children. In answer to the question: Should compulsory vaccination be retained? his commission has replied by pointing out the inefficacy of isolation alone against small-pox, and by emphasising the difficulties associated with vaccination deferred till small-pox has broken out in the neighbourhood. The commission finds that obligatory vaccination in childhood is at present the best protection against small-pox. On account of the age-distribution of post-vaccination encephalitis, the commission is in favour of early obligatory vaccination, preferably during the first year of life. In certain communities in Sweden there seems to have been a general revolt against compulsory vaccination, with legal consequences distressing for all concerned. To face this psychological problem of mass suggestion the commission urges more effective health education in connexion with vaccination. Swedish legislation of 1916 had a "conscientious objection" clause which, between 1917 and 1926, was so strictly interpreted by the authorities that they admitted only one claim. In the period 1926–1931, as many as 145 out of 406 claims under this clause were admitted. The remedy for inconsistency of this kind is popular education.

MEDICAL AND DENTAL REGISTERS

THE Medical Register for 1933 contains 56,096 names, being 492 more than last year and 14,156 more than in 1913. The numbers added during 1932 by registration in the several divisions of the United Kingdom do not differ much from the last five-year average; 19 more in England, 8 less in Scotland, 3 less in Ireland. The addition of 196 to the Colonial list is 17 in excess of the average. There is only one removal from the Register on ceasing to practise, and only six under the penal sections of the Medical Act, the average being five over a long period of years; the smallness of this number may come as a surprise to those accustomed to take their views of professional integrity from the headlines of the daily press. Removals on evidence of death (960 last year) steadily rise in number; an increase which, although a perfectly natural happening, must be borne in mind when considering replacements. Other than these figures, the introductory pages of the Register are little changed. There is a small addition to the documents in the signing of which the practitioner is asked to observe care. The six pages containing names of present and past officers and members of the Council contain not a single name of a woman, a fact that would more readily have escaped notice had it not been for recent correspondence in our columns. Colonel Norman C. King will be signing warning notices for the last time, as his well-earned retirement is nearly due. The tables showing reciprocity with British possessions and foreign countries seem to have remained unchanged and may signify a state of equilibrium; if so, it may give food for thought that among all the countries of the world Italy and Japan are the only ones who accept our medical degrees and whose medical degrees we accept in exchange. Those who have hitherto not found much use for the Register we may remind that under the Medical Act of 1858 a copy of the Register for the time being is evidence in all courts of law, and before all justices of the peace and others, that the persons specified therein are registered according to the provisions of this Act; and that the absence of the name shall be evidence, until the contrary be made to appear, that such a person is not so registered. Moreover the Register has the merit for ready reference that it is almost a single alphabetical list—with the lamentable exception of the Colonial and Foreign lists at the end, the separate publication of which, although admittedly serving no useful purpose, remains because it would require an Act of Parliament to merge them. Finally we offer tribute to the accuracy of a list whose only misprint—in a place name, detected last year—no longer appears, although, to be honest, it was deleted by death and not by correction.

The Dentists Register for 1933 contains 14,528 names, being 56 more than last year, and 1766 more than in 1922, when for the first time dentists without qualifications were included. As an inset to the Register is issued a list of dental companies and the names of directors of companies carrying on the business of dentistry.

The lists of Medical and Dental Students registered during the year 1932, published under the direction of the General Medical Council, show that 1947 medical students registered during the year, a number larger than in any year since 1920, and 322 dental students, a number larger than in any year since 1922. All three Registers are published for the General Medical Council by Messrs. Constable and Co., 10, Orange-street, London, W.C.2.

THE PRODUCTION OF QUININE

WE noted recently [1] that the amount of quinine necessary—20 g.—to give to every patient suffering from malaria throughout the world was estimated by the Health Organisation of the League of Nations as 1,387,000 kg. yearly. The question has naturally been raised whether such a demand could be met by the quinine industry. Messrs. Howards and Sons inform us that it could, as the normal sales of the 14 principal factories, excluding those of the Indian and Italian Governments, are about 500,000 kg. yearly, and it may be assumed safely that their existing plant could give an output twice as great. Moreover these factories always hold very large stocks of quinine to meet any sudden need; for a more permanent demand sufficient plant could rapidly be erected, probably within a few months, to increase their present maximum output by 50 or even 100 per cent. Huge stocks of bark are also held, while the cinchona plantations are at present collecting only about half of their possible harvest and could greatly increase their present output at short notice. There is, then, ample quinine to meet not only present needs but all that can be foreseen. No world shortage of the drug exists, but the position noted in our columns five years ago [2] still persists—that is, a shortage of quinine at a price which would make it available for general tropical use. The difficulty is wholly economic. The great mass of those who

[1] THE LANCET, Jan. 28th, p. 206.
[2] Ibid., 1928, i., 87.

wish to buy quinine, whether they are governments or individuals, cannot afford to buy it in adequate amount at its present cost. It follows that even if a satisfactory synthetic substitute is ever found, it cannot benefit mankind to the full unless it can be sold far more cheaply that are the cinchona alkaloids at the present time.

A FUND FOR RESEARCH WORKERS

INFECTIVE endocarditis is one of the most hopeless diseases with which the physician can be confronted. No means at his disposal have any effect on the essential lesion in the heart, and even if the local disease is limited in its extent the patient suffers from chronic septicæmia to which eventually he succumbs. Our actual knowledge of the pathogenesis of the disease is limited, and although its manifestations are well recognised they illustrate fundamental pathological processes with which at present we are quite unable to cope. No other disease calls more urgently for organised investigation, and to this end Sir Lester Harmsworth and Mr. H. C. A. Harmsworth founded in 1924 a Research Fund in memory of Robert Lovell St. John Harmsworth, who died of infective endocarditis. The fund is administered by a board of trustees advised by a small scientific committee, consisting of Lord Horder, Dr. M. H. Gordon, and Prof. E. H. Kettle, and grants in aid of research work are made from time to time to duly accredited persons. The attention of clinical and scientific workers who are particularly interested in the problem of malignant endocarditis is drawn to the existence of this fund of which Dr. P. Seymour Price, 33, Sloane-gardens, S.W.1, is the secretary. Applications for grants should be made to Dr. Price who will give information about the conditions governing such grants, and the lines along which it is suggested that investigations might proceed.

THE ALPS FOR CHILDREN

NEARLY a year ago we announced [1] that the ancestral Buol château overlooking Davos-Dorf had been placed at the disposal of the Birmingham Children's Hospital for use as a place for convalescent treatment. The report of the hospital for the year 1932, which was presented on Monday last, contains an account of how this offer has been utilised, although the first twelve months' working is not yet complete. Groups were sent out in May, August, and December, amounting in all to 53 children, of whom 38 were still in Davos at the end of the year. Of the 15 who returned after a stay of 3 or 6 months all except one were regarded as fit for returning; the exception was a boy who was sent home for further operative treatment. Sixteen of the 53 lucky children were selected because they had not fully recovered from an attack of pneumonia, chronic bronchitis, or other chest condition; 14 were asthmatic; 5 had failed to become robust after prolonged illness; 18 were suffering from actual tuberculosis of bones, joints, glands, or skin. The children are under the care of the very competent head of the Pro-juventute Sanatorium at Davos-Platz, and Prof. L. G. Parsons or some other member of the honorary medical staff of the parent hospital visits the château at least once a quarter to discuss progress, and to determine which child should come home and which should stay longer. A staff of five nurses and a certified teacher are supplied from home. It is of course too soon to speak of anything but immediate results; the report states that the medical staff have been immensely impressed with the results and possibilities of this new department. The impression was formed by observation on the spot, in free consultation with other children's specialists for whom the château has become something of a meeting-place. The report also states that the condition of the children who have returned proves that the same benefits would not have been possible in the same period of time in England, and that in many of the cases now at Davos it is recognised that their only chance of a permanent cure will be in a prolonged stay at a high altitude. These are brave words, for which it might not be possible at the moment to give chapter and verse. But confirmatory evidence is available in the valley from the observation of children sent from Vienna for periods of a few months at a time to the rather less favourably situated hamlet of Wiesen-Filisur. Davos has a well-equipped institute for physiological research, making it specially suitable for an experiment which is being watched with sympathetic interest by all those interested in the prophylaxis of tuberculosis by the timely care of the susceptible and recently infected. While the time may be gone by when a short sojourn in the Alps was considered specific for recognised disease of the lungs, there may well be an opportunity for trying out to its logical conclusion some such scheme as the enterprise of Birmingham and the generosity of Mr. Christian Kunzle are making possible in the Davos valley.

[1] THE LANCET, 1932, i., 632.

THE LAW AND THE OFFENDER

THE vigorous movement for the scientific study of crime, though very necessary, has tended to disparage somewhat unfairly the present arrangements for dealing with offenders. This excess of zeal received a salutary correction from Mr. Claud Mullins in a lecture he gave on March 2nd to the Friends of the Institute of Medical Psychology. He admitted that the system contained several anomalies. For instance, if a man keeps a brothel or exposes his person indecently he has no right of trial by jury and cannot receive more than three months' imprisonment, but if he steals 6*d*., sells an indecent book, or lends his motor licence to a friend, he has a right to trial by jury and is liable to a more severe sentence. If a woman who has been deserted by her husband for six years marries again, her crime must be dealt with in the same way as murder—namely, by judge and jury at assizes—but if she encourages the prostitution of her child under 16 she is dealt with at quarter sessions. On the other hand, the legal system of this country, he said, possesses two features which render it much more humane than that of most others; an offender is deemed innocent until he is proved guilty, and his past record is not admissible until he is proved guilty. It is frequently alleged that magistrates, in common with the criminal law, lay too much stress on a man's offence and too little on the man; that they make little attempt to probe into the offender's mind. Mr. Mullins would have an expert available in every prison and for special cases in the police-court, but his conviction of the paramount importance of presuming the innocence of the accused person compels him to object strongly to any kind of examination before the verdict in most cases. As he pointed out, modern psychology is better at diagnosis that at cure, and the treatment it offers is still in the experimental stage. Many people talk as if a psycho-therapeutic treatment could be poured into the patient like a dose of medicine;

its success, however, depends entirely on the efforts of the patient. As Mr. Mullins said, many criminals offend because they like it; some are so lazy and feeble that they like prison; some are so bored that they like crime. These people would never be cured by psychology as it is to-day.

Mr. Mullins went on to deprecate the treatment of criminals as sick people and the deletion of punishment from the penal system. He strongly believes in punishment as a deterrent, and brought forward examples to show its value to the State. He assured his audience that considering the circumstances of the time the number of criminals was astonishingly low—and was decreasing. But the suggestion that the prisons would soon be empty if the psychologists had their way was nonsense. He would like to press on with a better probation system, and the appointment of a doctor psychologist to every prison. He would take steps to ensure that those responsible for handling law-breakers had had special training in psychology as well as in law, and that the prison authorities should be allowed to make a report on every case—and even to advise the judge or magistrate as to sentence. "The task of getting these reforms," he concluded, "will be rendered more difficult by uninstructed abuse and wholesale condemnation, and also by theoretical proposals that cannot stand the test of experiment."

ANÆSTHETICS IN BRAIN SURGERY

THE discussion on anæsthesia in intracranial surgery, at the Royal Society of Medicine on March 3rd, brought out instructive differences of opinion among experts. Mr. Norman Dott, speaking from an experience of 700 cerebral operations, described his use and disuse of ether vapour by inhalation; the addition of local infiltration; rectal ether with paraldehyde; luminal and ether vapour as adjuvants, and local anæsthesia with morphia. Later he had tried avertin and ether, and his present choice was avertin and morphia. Besides conferring stillness and safety, the ideal anæsthetic for these operations must discourage bleeding. Any anæsthetic which caused swelling or congestion of the brain was to be avoided; and herein lay the first notable difference of opinion, for, whereas Mr. Dott disapproved of ether for this reason, Dr. Z. Mennell, Mr. Ryan and others claimed that, given through an endotracheal tube, ether does not increase the size or the vascularity of the brain during operation. Endotracheal nitrous oxide and oxygen, after cocainisation of the throat, was endorsed by Mr. J. Challis, and Mr. Hugh Cairns had been well pleased with the results of this procedure employed by experts in passing the tracheal tube. Mr. Cairns described the danger of tachycardia following on withdrawal of the anæsthetic from patients in whom the sympathetic control centres had been interfered with at the operation, and queried whether the anæsthesia should not be continued for many hours to give the centres time to recover. Apart from the possibility of maintaining unconsciousness after operation is over, the time question is a serious matter for the anæsthetist. Some surgeons now may require four hours or more, up to seven or eight, for removal of a cerebral tumour. The anæsthetist working with these deliberate operators, as Dr. Mennell pointed out, is confronted with problems different from those of association with the rapid type of operator, of whom the late Sir Percy Sargent was the most brilliant example. For an operation lasting from half an hour to one and a half hours, ether given through an endotracheal or endopharyngeal catheter may be a satisfactory agent to employ, and even chloroform can be used with advantage when there is great intracranial tension. But these anæsthetics are out of the question when the operation is to last the best part of a working day. None of the speakers expressed himself satisfied with local analgesics for this kind of work. The patient must be unconscious, unless he is an infant, when a local injection fortified by the distraction of a feeding bottle during operation has given Mr. Dott all that he wanted. An additional objection to novocain, pointed out by Mr. Julian Taylor, is the febrile reaction which often follows its use. Mr. Taylor was impressed with the importance of avoiding cough, and this made him apprehensive of the endotracheal tube. Mr. C. P. G. Wakeley favoured avertin with local analgesia. The good results obtained in America with light ether anæsthesia were also mentioned.

LISTER TO SHARPEY

THERE is no finality in biography; when everything has been said about a man that can be said, a fortunate accident may open up new points and lead to fresh discoveries. Such an accident has happened in the case of Lister. Mr. C. R. Rudolf has found, in the shop of a second-hand bookseller, eight long letters written by Joseph Lister to William Sharpey who had taught him physiology when he was a student at University College in London. These letters Mr. Rudolf has transcribed, annotated, and published.[1] Six of the letters are of extreme interest because they show Lister's method of working, the great care he took to be accurate in his facts, and his desire to submit to expert criticism before he made his results public. The six letters were written between November, 1857, and November, 1858, at a time when Lister was doing the original work on the early stages of inflammation and the inhibitory action of the visceral nerves which he afterwards presented at the Royal Society. It gained him the Fellowship of the Society and at the same time marked him out as a careful and accurate observer. These letters unveil the secrets of his workshop. They show him as a man full of doubts, not sure of his results and so humble-minded that he was anxious to lay all his difficulties before a teacher whom it is clear that he held in veneration. Mr. Rudolf has published with the letters the reports made by the two referees, Sir James Paget and Prof. Goodsir, to whom the finished papers were submitted before they were printed by the Royal Society. The seventh letter deals with Lister's application for the chair of surgery at Glasgow; the eighth with medical education in Scotland, when Lister shows himself an opponent to clinical examinations. They are of minor importance compared with the first six which are a real find.

COARCTATION OF THE AORTA

A FORM of congenital "heart" disease, pure coarctation of the aorta is not associated with cyanosis, and may escape detection or be otherwise diagnosed, unless the significance of certain signs is understood. Dr. William Evans[2] of the London Hospital reports 28 cases, with the post-mortem findings of 26, the other 2 patients being still alive. He rejects the unsatisfactory Bonnet classification which divided the condition into infantile and adult types, and instead makes six groups, based on the site, nature, and extent of the coarctation, and on the associated or compensatory developmental lesions, especially the state of the ductus arteriosus. In some

[1] Brit. Jour. Surg., xx., Nos. 77 and 79.
[2] Quart. Jour. Med., January, 1933, p. 1.

of these types the deformity is such as to shunt a large proportion of blood from the pulmonary artery directly into the systemic arterial tree, passing the lungs by, and in these the duration of life is a few days only. On the other hand coarctation, of any degree up to atresia, and with or without a patent ductus arteriosus, is not incompatible with a long life.

The condition should be suspected in young people with high blood pressure, perhaps with the murmur of aortic incompetence and sometimes enlargement of the heart. After this the discovery of prominent tortuous arteries under the skin of the chest and abdomen will enable the diagnosis to be made. Radiography of the chest can give important evidence depending on the erosion of the ribs by the arteries of the anastomosis, and changes in the aortic shadow which may be prominent in its ascending part while the knob is inconspicuous or absent. Demonstration of a blood pressure lower in the leg than the arm and retardation of the femoral pulse are also of value in diagnosis. The prognosis in coarctation is always uncertain because the patient is exposed to the risk of fatal complications. Dr. Evans shows the cause of death to be heart failure in 50 per cent. of the fatal cases, bacteræmic endocarditis and rupture of mycotic or false aneurysm in 20 per cent., and bronchopneumonia in 15 per cent.

ADHERENT PLACENTA

Langhans, in 1875, finally established the way in which the placenta normally separates through the spongy layer of the decidua, but the great importance of this layer has been recognised only by the study of morbid adhesion. The condition called placenta accreta, which was discussed at a meeting reported on p. 528, is the extreme form of adhesion, and there have always been doubts about its causation. Credé went so far as to deny its occurrence, and attributed cases so described to mismanagement of the third stage of labour. Nevertheless, Smellie and others of the older authorities give clear descriptions of cases in which manual separation was very difficult and large masses of the placenta had to be left attached to the uterine wall. Hofmeier reported in 1890 the pathological investigation of a uterus removed post mortem from a patient who had died after attempted manual removal; he found that the placenta was separated from the uterine muscle by only a very narrow layer of tissue. Since this time a number of similar cases have been described, in some of which the placental villi have been found penetrating the muscle, and even reaching the peritoneal coat of the uterus—the so-called placenta increta destruans. The constant pathological finding is deficient development of the spongy layer of the decidua, and the previous history of many of the patients suggests that this deficiency is due to abnormal thinness of the endometrium before pregnancy. Repeated manual removal of the placenta in previous pregnancies and repeated curettage are commonly reported. A case has been recorded in which the condition followed about four years' amenorrhœa due to atmocausis of the uterus for menorrhagia, and another following radium treatment; while in yet another case, in a primigravida, the placenta has been found attached to a submucous myoma over which the endometrial glands had become atrophied. Puerperal sepsis is a possible cause, and the thinness of the endometrium on a uterine septum, in a rudimentary horn, and on the normal lower segment may give rise to morbid adhesion of the placenta. It is also suggested that deficiency in secretions of the corpus luteum may limit the development of the decidua, while abnormal proliferation of the villi is another theoretical cause.

E. L. Dorsett[1] reports constant abdominal pain and repeated severe uterine contractions as symptoms during pregnancy, and these may give rise to a suspicion of placenta accreta when the history also suggests its possibility. The diagnosis is usually made only in the third stage of labour, when the placenta fails to separate and there is no bleeding, and on exploration of the uterus with the hand no line of separation can be found between it and the uterine wall. Experience shows how futile it is to try to remove the placenta manually. In a few minor cases this may be done fairly satisfactorily, but it is often quite impossible; the removal is incomplete, the uterine wall may be thinned or perforated, and severe hæmorrhage always results. E. Klaften[2] recorded a mortality of 87 per cent. in 24 cases so treated; whereas of 21 patients treated by hysterectomy 18 survived. There seems to be no doubt that subtotal hysterectomy is the correct treatment when careful aseptic exploration of the uterus has indicated the presence of placenta accreta. As a prophylactic measure conservative conduct of the third stage of labour may be suggested. It is also important to avoid too thorough curettage.

The frequency of the condition is probably about 1 in 15,000 or 20,000, nearly all the cases having been reported in Germany and America. The case-reports also show that fœtal mortality is high; in Klaften's series only 15 infants survived in the 28 cases of which details were available. The chief danger, however, is to the mother, and this is very largely avoidable if diagnosis and treatment are correct.

OPIUM TRAFFIC AND THE ECONOMIC CRISIS

AT the recent meeting of the Permanent Central Opium Board at Geneva attention was again directed to the possible, and indeed probable, effect of the economic crisis on the work alike of the Advisory Committee on the Traffic in Dangerous Drugs and of the Central Board.[3] The Italian delegate, Mr. Gallavresi, suggested that appeal should be made to States non-members of the League of Nations, which were nevertheless parties to the Hague or the Geneva Conventions, to make subventions towards the international control of drugs of addiction. It was also suggested that other States "which at present derived a very considerable income from opium, valued at one quarter of a milliard of gold francs," might also render financial assistance to the work. These countries had declared "that they did not desire this money to become a source of revenue," and accordingly such an appeal would not be inappropriate.

ON p. 552 of this issue is set out a scheme for the reorganisation of the consultant and specialist staff of the hospitals of the London County Council. This scheme was approved by the Council on Tuesday last, and applications will shortly be invited for these appointments, which are of great number and variety, and of vital importance from the point of view of the development of the public hospitals of London. No doubt special consideration will be given to those members of the consultant staff who are now occupying similar appointments in the Council's hospital service, and have rendered loyal service both to the Council and its predecessors, the boards of guardians and the Metropolitan Asylums Board. But apart from this we are assured that the field is an absolutely open one.

[1] Amer. Jour. Obst. and Gyn., February, 1933, p. 274.
[2] Archiv. f. Gynäk., 1928, cxxxv., 190.
[3] THE LANCET, 1932, ii., 1014.

SPECIAL ARTICLES

MEDICAL RESEARCH COUNCIL
SUPPORT FOR CLINICAL RESEARCH

THE reduction by £9000 of the grant provided by Parliament for the expenses of the Medical Research Council was not, it is noted in their annual report for 1932[1], the full extent of the diminution in their income. Subsidies from other bodies, such as the Empire Marketing Board and the Colonial Office fund for medical research, expired or were greatly reduced, throwing on the Council the burden for continuing to support work which could not be dropped at the particular stage it had reached without irretrievable loss. Fortunately benefactions from private sources have supplemented their resources. Of these perhaps the most notable is the endowment by the Rockefeller Foundation of the post of director of the research department at University College Hospital, now held by Sir Thomas Lewis, thus liberating a large part of the cost of that department, hitherto borne by the Council, for other purposes. It has been allocated to a research department in neurological medicine at the National Hospital, Queen-square, with Dr. E. A. Carmichael as full-time director, the Halley Stewart trustees providing studentships to enable qualified research workers to make investigations under his guidance. Another benefaction comes from the trustees of the late Lord Leverhulme, who have provided funds to initiate and maintain for at least five years a unit for malaria research at the London School of Hygiene and Tropical Medicine, under the direction of Sir Rickard Christophers.

It is stated in the introduction to the report that the promotion of clinical research has always been given a primary place in the policy of the Council. Hitherto, however, there has been no body of scientific workers in this country exclusively engaged in the study of disease and its treatment in the living patient unencumbered by the responsibilities of professional practice or routine laboratory duties. The Council indicate that the universities are showing a constructive interest in the problem of establishing full-time professorships of medicine and surgery, and the tendency to create posts in order that men who wish to devote their lives to clinical research can look forward to a reasonably secure career is certainly increasing. The Council are doing much to encourage this tendency by providing younger men with the opportunity to learn methods of investigation appropriate to problems in human medicine, and thus to qualify themselves for permanent posts. The volume of clinical research subsidised by the Council in 1931–32 appears from the report to be greater than ever before, and it is mainly from this branch of the work recorded that we have selected some examples for summary.

Research in Therapeutics

It will be remembered that a Therapeutic Trials Committee was established last year to arrange for clinical trials of new remedies which seem likely, on experimental grounds, to have value in the treatment of disease. The conditions under which substances are received for controlled clinical tests have been accepted during the year in respect of 14 drugs submitted by the following manufacturing firms: A. Boake Roberts and Co., Ltd., Boots Pure Drug Co., Ltd., The British Drug Houses, Ltd., Burroughs Wellcome and Co., May and Baker, Ltd., and Schering-Kahlbaum A.G. The substances include drugs for the relief of angina pectoris, in the test of which Dr. J. Crighton Bramwell (Manchester) has coöperated; a new urinary antiseptic which has been tested at the research department of Queen Charlotte's Hospital by Dr. R. M. Fry; and the œstrus-producing principle (œstrin). Working for this committee Dr. Chassar Moir has shown that ergotoxine and ergotamine are identical in their action on the mechanically recorded contractions of the puerperal human uterus, as they were already known to be in laboratory experiments.

Work for this committee does not exhaust the tests of remedies being subsidised by the Council. For example, at the Molteno Institute at Cambridge Dr. P. Tate and Miss M. Vincent have been investigating the antimalarial effects of quinine and various synthetic drugs, including plasmochin (plasmoquine), upon bird malaria. Mr. H. King, D.Sc., at Hampstead, has found two among a series of compounds formed by the condensation of organic arsenoxides with cysteine and glutathione to be highly active in curing trypanosomiasis in doses tolerable to infected animals, and a wider trial is being arranged. The assay of strophanthus tincture in terms of ouabain by Dr. J. H. Gaddum and Dr. J. H. Burn revealed remarkable discrepancies between tests of activity performed in this country and in America. These discrepancies were found to be attributable to variations in the details of the biological tests performed, and to the fact that tests on animals of different species give different results. These observations led the British Pharmacopœia Commission to adopt as the standard for strophanthus a sample of the British tincture, having its potency initially determined in terms of ouabain by a defined method.

Mr. H. P. Marks, working with Dr. A. Hemmingsen of Copenhagen, has found that with insulin also the animal used for testing is significant; the mouse test assigns a significantly higher unit value to a sample than does the rabbit blood-sugar test.

The value of a ketogenic diet in urinary infections is being studied by Mr. D. Band and Dr. I. L. Dick (Edinburgh) and Dr. A. T. Fuller (London), and in epilepsy by Dr. E. A. Carmichael. Prof. E. Mellanby and his colleagues at Sheffield are studying the effects of diets rich in vitamin A in the treatment of disseminated sclerosis and subacute combined degeneration of the cord, the basis of the treatment being the demyelination of the spinal cord and of peripheral nerves produced experimentally by vitamin-A deficiency.

The chemistry of the unidentified potent substance present in alkaloid-free, watery extracts of ergot is being studied by Mr. H. W. Dudley, Ph.D., in association with Dr. Moir, Sir Henry Dale, and Dr. R. Azuma.

NEW INTERNATIONAL STANDARDS

New international standards have been worked out and adopted for (1) the œstrus-producing hormone (with a uniform notation in units) in the form of a sample of the keto-hydroxy form of the crystalline hormone; (2) antipneumococcus serum (Type I.) of high potency in dried form, the production of a stable standard preparation for Type II. being also contemplated; (3) vitamin A—a sample of purified

[1] Report of the Medical Research Council for the Year 1931–1932. London: H.M. Stationery Office. 1933. Pp. 140. 2s.

carotene; vitamin D—a solution of irradiated ergosterol in olive oil; vitamin B_1—a quantity of the dry absorption product from an extract of rice bran prepared by Dr. S. L. Brug, of Java, and stored at the National Institute for Medical Research at Hampstead.

VITAMIN D

In connexion with vitamin D it is noteworthy that though calciferol shows very intensely the specific anti-rickets activity of the natural vitamin D, it has been obtained in pure form only as a product of the artificial irradiation of ergosterol, and there is no chemical evidence identifying it with the natural vitamin. An attempt is accordingly being made by Mr. R. K. Callow, D.Phil., and Mr. T. A. Webster to isolate the natural vitamin D by methods which were successful in isolating calciferol from irradiation mixtures, using material prepared by the Glaxo laboratories, in which the vitamin has been concentrated from cod-liver oil.

The recognised poisonous action of very large doses of irradiated ergosterol—enormously in excess of normal vitamin requirements—has been attributed by some to a by-product of irradiation and by others to overdosage with the active principle of the parathyroid gland secondary to stimulation of the glands by excess of the vitamin. Both of these theories have been disproved. Dr. R. B. Bourdillon and his colleagues found that the pure substance in largely excessive doses had the same toxic effects on mice as the mixed irradiation product, and Mr. Webster that certain pure esters of calciferol produce toxic effects proportional to their anti-rickets action; while Sir Henry Dale and others found that absence of the parathyroid glands makes no difference to the effects produced by gross excess of calciferol. Prof. J. C. Drummond, working at University College with Dr. Muriel Bell on disturbances of nutrition caused by excessive dosage with cod-liver oil, has obtained results suggesting that the vitamin itself, even in large amounts, has no harmful effects.

Mr. Webster, studying the fate of calciferol in the body on material supplied by British Drug Houses, Ltd., finds that it does not pass out of the system, so that its disappearance is due to destruction rather than to excretion.

Dr. Callow and Miss H. M. Bruce have found some evidence that phytic acid, which represents most of the high phosphorus content of cereals, may be the substance in cereals which Prof. E. Mellanby has found to be antagonistic to the action of vitamin D.

Human Pathology. Diagnosis and Prognosis

In the department of clinical research at University College Hospital the scope of research has been deliberately widened. Not only investigations into cardiac and vascular diseases, but studies of the kidney function and of the sympathetic nervous system in man are now being pursued, as a natural development of previous work on hypertension and cardiac asthma and on the blood circulation. A study of kidney disease is leading to a general exploration of the symptom "headache," and histamine has been used to induce this experimentally in normal persons.

Investigations of pain in an active leg muscle deprived of its blood-supply have led to the conclusion that this pain is due to purely chemical or physico-chemical stimulus developed in the muscle, and this explanation is applicable also to the anginal pain due to disease of the coronary arteries. Studies of the onset of paralysis of the limb nerves following occlusion of the blood-supply have shown that loss of sensation begins at the extremities of the limb and passes gradually up, and that the motor apparatus is generally affected in a similar ascending order. Nerves in passing from their peripheral endings to the central nervous system become more and more susceptible to lack of oxygen. This characteristic onset of ischæmic paralysis gives warning that if nerve and muscle have been exposed equally to a toxic influence, and it is found that the muscle responds to direct stimulation but not to indirect stimulation through its nerve, a conclusion that the neuromuscular junction is at fault may be incorrect; the fault may still lie in the nerve itself, its nearer parts being more paralysed than its further parts.

These observations have obvious bearing upon peripheral neuritis as it occurs in man, since the process is strikingly similar in neuritis from toxic causes to that found in simple ischæmia, and there can be little doubt that a similar explanation applies to both.

The after-histories of 1000 patients suffering from structural heart disease have been completed, and the final report upon them is now in preparation.

At Guy's Hospital Dr. E. P. Poulton and Dr. W. W. Payne, in the course of biochemical studies on rheumatoid arthritis, have obtained results which indicate that a rise in the respiratory quotient does not necessarily mean, as had been believed, an increased consumption of carbohydrate in relation to fat. This inquiry, which may have an important bearing on the action of insulin in diabetes, is being extended. Dr. A. A. Osman and Dr. H. G. Close have been studying the morbid structure of the kidney with reference to the previous clinical history in a large series of cases. Special attention is being given to the incidence and extent of kidney disease in patients dying from other causes than nephritis. Further work has been done on the incidence and prevention of scarlatina and nephritis.

A statistical study is being made of the records of the diabetic clinic at King's College Hospital, where Dr. R. D. Lawrence is working for the Council. At Manchester Dr. J. C. Bramwell and his assistants, and at Edinburgh Prof. D. Murray Lyon and Dr. A. R. Gilchrist, have been making studies of the effects of pregnancy on patients with heart disease. At Manchester special attention has been given to the indications respectively for Cæsarean section and the induction of premature labour in cardiac cases. At Edinburgh Dr. G. H. Percival has been studying the classification and treatment of the different types of dermatitis and inquiring into dermatitis due to chemical irritants.

At St. Mark's Hospital, London, Mr. W. B. Gabriel and Dr. Cuthbert Dukes, studying the after-histories of patients with rectal cancer, found that 78 per cent. of the patients survive for three years or more after the operation of perineal excision of the rectum, provided that the regional lymph glands are not affected at the time of operation. At Edinburgh Mr. D. Band is investigating the excretions of the tubercle bacilli in the urine of patients with pulmonary tuberculosis who show no clinical signs of genito-urinary involvement; he is also making a microscopical study of tuberculous kidneys removed at operations, and relating the findings to the clinical symptoms and the evidence given by pyelography.

Research into different aspects of the anæmias, nutritional problems, dental disease, and malignant disease are being carried on at many centres, and, in fact, subjects covering the whole range of medicine, surgery, and obstetrics seem to be being attacked from new points of view. The researches quoted are only samples of the clinical investigations in progress. For an account of others and of more specialised laboratory studies the report itself should be consulted.

MEDICINE AND THE LAW

Cancer Treatment by Unregistered Practitioner

AN inquest was concluded at Wigan on Feb. 22nd on Mrs. Thorpe, aged 55, who, after 18 months in the Radium Institute at Liverpool, was treated by an unregistered practitioner for the last four months of her life. Dr. W. E. Cooke, pathologist at Wigan and Leigh infirmaries, said that his post-mortem examination showed signs of hypostatic pneumonia in the lungs and an extensive cancerous process in the abdomen. Death was caused by heart failure due to cancer. A son of the deceased gave evidence of his mother's treatment by Mr. C. C. Abbott, described as a physio-medical practitioner. At her first visit (for which a fee of five guineas was charged) she was examined for three hours with the aid of an electrical machine. She was charged 10*s.* 6*d.* for each subsequent visit and 2*s.* 6*d.* for each bottle of medicine and each box of paste. The coroner invited Dr. Cooke's views of Mr. Abbott's formulæ for his medicines and pastes. The witness said he could not read them; the amounts of the ingredients were not stated; he found no active principle in them for the cure of cancer. Lamps supplied by Mr. Abbott to reduce swelling were ultra-violet ray electric lamps which would have no effect upon swellings. Dr. Cooke, in reply to the coroner, said he could not go so far as to say that Mr. Abbott's treatment of Mrs. Thorpe accelerated her death in any way; he thought, however, that during her last month her life would have been easier if she had been under proper medical care.

Volunteering to give evidence, Mr. Abbott said he gave the patient herbal medicine and herbal treatment for a malignant abdominal growth. He used an electronic diagnostic machine registering the vibration of the body. Medicines were put into the machine: if the machine did not reject them, they were considered suitable for the cure of the patient; if rejected, the balance of the vibration would be upset. The coroner advised the jury that the evidence had not disclosed any criminal responsibility on the part of anyone. It could not be shown that Mr. Abbott did not honestly believe in his remedy. A verdict of death from natural causes was returned.

Electronic Vibration and Meningitis

Further explanation of Mr. Abbott's method of treatment was given at an inquest at Royton, Lancashire, on a boy who had died of meningitis. According to his father, the boy had suffered from fits since he was 2½ years old. These grew worse as he grew older. After treatment by four doctors and a specialist, the boy was taken to Mr. Abbott whom the father believed to be a medical practitioner. He had treatment from Mr. Abbott about a dozen times; the bills, according to the coroner, totalled £28 16*s.* 3*d.* In answer to Mr. Abbott the father said five guineas was charged for the first visit when the boy underwent an electrical test, and a guinea was charged for each visit afterwards. The father agreed that the boy seemed to be better after Christmas. At the electrical test the boy was placed on a chair in the corner and was connected by wires to Mrs. Abbott who was called "the subject." A man named Dr. Foster took a test and said that the boy had nine different varieties of worms, including some on the brain. The coroner informed the jury that he had himself visited the premises, Mr. Abbott giving him every facility. Mrs. Abbott, the young woman described as "the subject," wore a metal disc on her forehead. An assistant knelt on the floor in front of her and passed a glass roller up and down her body. The two of them were railed in by a wire fence. Mr. Abbott was standing by a large black box which looked like an enormous wireless set. Mr. Abbott put several bottles into the box and eventually said that the bottles contained the correct medicine. Earlier in the proceedings Mr. Abbott himself gave evidence. He said he had been practising as a physio-medical practitioner for 25 years; he had previously been connected with a colliery. The initials M.H. and F.P.C., which appeared on his papers, meant Medical Herbalist and Fellow of the Physiological College. He had for some years been working on research experiments with an improvement of the diagnostic machine called Abrams Box. He did not agree with the medical committee which reported in 1924 that the claims of electronic practice had no basis in fact. He had studied the Abrams method of diagnosis and the theory of vibrations.

Mr. Arnold Pickup, an analytical and consulting chemist practising in Rochdale, spoke of his analysis of the contents of two bottles said to have been supplied by Mr. Abbott. One contained 95 per cent. of water, the other 77 per cent. The remainder of the contents consisted chiefly of extract of liquorice, a little sweetening matter and flavouring agents. In reply to Mr. Abbott, he said he found no trace of ginseng, a Chinese drug. Dr. E. P. Maitland, police surgeon, who made the post-mortem examination, expressed the view that the dead boy had not had proper medical treatment. The jury found that the boy died of meningitis, that his death was hastened by Abbott's neglect, and that Abbott had unlawfully killed the boy. The coroner, observing that this was equivalent to a verdict of manslaughter, committed Abbott for trial.

Heart Disease and Workmen's Compensation

In addition to the other cases summarised in our columns (Feb. 25th, p. 421, and March 4th, p. 489) the following decisions were discussed by Mr. W. A. Robson in a lecture at the London School of Economics on Feb. 28th. In each case the workman's dependents had claimed compensation on the ground that his death at work from heart failure had been caused by an accident arising out of his employment.

In *Davies* v. *John Vipond & Co., Ltd.* (25 B.W.C.C., 47), a workman who, except for an attack of muscular rheumatism two years previously, appeared to have enjoyed excellent health, had reached over a truck to get at a piece of coal with his pick; in doing so he had collapsed and died at once. At autopsy a large rupture had been found in the left ventricle, together with serious changes in the wall. The judge had found the death was due to the disease and not at all to the work. The Court of Appeal had supported this finding on the ground that there had been evidence to support the judge in deciding that death had not been accelerated to any material extent.

In *Walker* v. *John Brown & Co.* (25 B.W.C.C., 166) a healthy coal-getter had been pulling down coal with an iron bar and had handed it to his mate at the latter's request. After a few minutes his mate had seen the deceased lying on the ground, and the man had soon afterwards given a groan and died. The post-mortem examination had shown death to be due to syncope caused by double pneumonia of one or two days' duration, and the medical evidence was that death was accelerated by the strain of the work on an overburdened heart. The judge had

awarded for the employers on the ground that there had been no real evidence that any particular piece of work had caused the death. The Court of Appeal had ordered a new trial, partly to get a more explicit answer to Lord Loreburn's question, and partly because it suspected that the judge had misdirected himself by believing it necessary to connect the death with the work through a particular action or strain.

The essential difficulties of the courts, said Mr. Robson, and their conflicting decisions had been due to two causes. The first was that the law presumed an accuracy and precision in the analysis of causation which medical science was in fact unable to provide. The second was that for personal injury by accident within the meaning of the Act it was necessary that the death or injury must follow suddenly upon the event occasioning it. In *Ismay Imrie* v. *Williamson* (1908, A.C., 437) a trimmer in a liner, in an emaciated condition, had been killed by a heat-stroke in the act of raking out ashes; his dependents had been awarded compensation. On the other hand, in *Pyper* v. *Manchester Liners* (1916, 2, K.B., 691) a stoker had died of heat-stroke after complaining of the heat for four or five days, during which he had, although suffering, continued at work to relieve his mates. His injury had been held not to be by accident. When the workman had a predisposing condition, the dividing line between being gradually overcome by disease and suddenly succumbing to personal injury by accident was so fine that it was impossible to expect justice to be done in all the cases.

RESEARCH IN VETERINARY DISEASE

THE Institute of Comparative Pathology maintained by the Department of Agriculture of the Union of South Africa at Onderstepoort, Pretoria, has long been famous for the quality of the researches carried out there and for its contribution not only to veterinary education but to the solution of the practical economic problems with which farmers in South Africa are faced. In the routine department laboratory products are manufactured on a large scale for sale to farmers practically at cost price. The organisation developed by Sir Arnold Theiler is now carried on under the direction of Dr. P. J. du Toit, but in the eighteenth annual report just published [1] it is shown that his former colleagues still have the advantage of Sir Arnold Theiler's collaboration in certain researches. The report is issued in two large volumes, and contains accounts of investigations into many aspects of veterinary medicine and surgery, among which the following may be noted as of especial interest:—

Protozoal disease.—W. O. Neitz and P. J. du Toit describe a successful method of obtaining a pure infection of *Anaplasma marginale* and *centrale* free of *Theileria mutans* and *Piroplasma bigemminum* contamination for vaccine purposes. By passage of the mixed infection through the blesbok the theileria and piroplasma infections are eliminated as the blesbuck is not susceptible to these infections. The investigation has shown that buck are susceptible to anaplasmosis and this factor will influence future legislation for the stamping out of this disease.

Virus disease.—The same observers describe experiments on the use of formolised spleen virus in place of the virus-antiserum method of immunising mules against South African horse sickness. The use of formolised vaccine gives no better immunity than the older method but the cost of immunisation is reduced. The method is still in the experimental stage. With C. Jackson, Neitz is continuing investigations upon heart water. They have shown that by injecting saline-washed endothelial cells, scraped from the intima of the jugular vein of infected sheep, into normal sheep typical heart water can be set up in the recipient. Such endothelial cells contain rickettsiæ. This experiment is held to afford direct evidence that *Rickettsia ruminantium* and not some ultra-visible virus is the causal agent of heart water. With I. P. Marais, Neitz gives a summary of the history and distribution of rabies in South Africa. It is of interest that in South Africa the disease has been almost invariably transmitted by bites of members of the viveridæ family—e.g., mongoose, gennet cat—whilst dogs have very seldom been involved.

Helminthological section.—H. O. Mönnig reports further results of his investigation of the nematode parasites of wild buck and the significance of wild animals as possible reservoirs of infection of the parasites of domestic animals. One new genus of the metastrongylidæ and five new species amongst various genera are described. In the blesbuck amongst other parasites the following were found: *Cooperia pectinata* and *punctata*, *Œsophagostomum columbianum*, species of ostertagia and trichostrongylus, and *Trichuris ovis*. In the Sassaby *Hæmonchus contortus* was found. These parasites are all of considerable economic importance in domestic animals.

Mineral deficiency diseases.—A section of nearly 300 pages deals with mineral deficiency diseases published by du Toit, I. P. Malan, and numerous other workers. With the financial assistance of the Empire Marketing Board an extensive survey of the mineral deficiencies of South African pastures has been begun. The problem is being approached by soil analysis, by chemical analysis of the pasture plants, and by the estimation of the organic phosphorus content of the blood of stock grazing over the pastures in question. A preliminary survey has shown a reasonable correlation between the phosphorus content of the soil and of the pasture growing upon that soil. A considerably closer correlation has been shown to exist between the phosphorus content of the pasture and the inorganic phosphorus content of the blood of animals grazing upon it. Where discrepancies have occurred they have been easily explained. On account of the relative simplicity of the blood-phosphorus estimation this branch of the investigation is being extended widely. Blood is drawn and the protein material precipitated with trichloracetic acid. Analysis must be performed as soon as possible because of the hydrolysis organic phosphorus to inorganic during storage. Study of the mineral metabolism of sheep has shown that the effects of phosphorus deficiency follow the same general lines as deficiency in cattle as described by Sir Arnold Theiler, du Toit, and H. H. Green, in previous reports, except that in sheep fecundity appears to be unaffected. A study of wool production, on 20 sheep fed a sufficiency of phosphorus and 20 on an insufficient phosphorus diet, showed that the phosphorus-sufficiency group produced on the average 32 per cent. heavier fleeces with 16·6 per cent. greater length of staple and 13·5 per cent. greater thickness of fibre. The experiment lasted two years. The effect of feeding small doses of iodides to sheep

[1] Union of South Africa. Eighteenth Report of the Director of Veterinary Services and Animal Industry, Onderstepoort, Pretoria, 1932.

for two years showed no beneficial effects and appeared to have a slight detrimental effect upon reproductive activity. As regards the practical application of phosphorus feeding to stock under ranching conditions, work has been carried out to find a suitable water-soluble phosphate so that the daily ration of phosphate could be given in the drinking-water. Mono-sodium phosphate is shown to give excellent results under experimental conditions, but the method has not yet been subjected to the crucial test in the hands of the farmer.

Ectoparasites.—G. A. H. Bedford has published a synoptic check-list and host-list of the ectoparasites found on South African mammals, birds, and reptilia. This list is intended to correct the errors in the previous list published in 1927 and to include the new parasites and hosts since described. The list, including references to the literature, covers 300 pages.

Poisonous plants.—C. Rimington describes the isolation and identification of the toxic principle of *Dimorphotheca spectabilis* and *Dimorphotheca zeyheri*. It is a cyanogenetic glucoside identical with linamarin or phaseolunatin. It occurs in a hitherto unreported crystalline form; therefore the glucoside is dimorphous.

A SCHOOL OF CHILD WELFARE

THE President of the French Republic (Mr. Albert Lebrun) on March 5th attended the inauguration of the Ecole de Puériculture of the Paris Faculty of Medicine. He referred in his speech to Prof. Adolphe Pinard's life-work on behalf of mothers and children, which reaches its consummation in the new building, and at the close of the proceedings he bestowed on him the insignia of Grand Officer of the Legion of Honour. Prof. Pinard, who is now in his 90th year, is, with Prof. B. Weill-Hallé, director of the school.

The Ecole de Puériculture dates from 1919. It originated with a gift of a million francs from the American Red Cross, supplemented by 550,000 francs from the League of the Children of America (Junior Red Cross). So far the buildings have cost about 19 million francs, and the total will be about 25 millions. The object is to promote the welfare of children, and so make up the wastage caused by war and reduction of the birth-rate. Though this idea is an old one, it was not developed until sometime during the late war, when a department for the protection of mothers and children was created under the ægis of Prof. Pinard. Prof. A. B. J. Marfan has extended, it and these two can claim the paternity of "puericulture."

The personnel falls into two categories: (1) doctors who take a special course in the subjects; and (2) nurses or nurse-visitors who spend one or two years in residence (or living outside). Those taking a full course sit for a diploma. The building is situated in the Boulevard Brune (Paris XIVe), and the architects are to be congratulated on the simplicity of the red-brick exterior and the excellence of their plans. There is a large amphitheatre for lectures—it was here that more than 400 persons were assembled for the inauguration ceremony—well arranged and lighted; there are administrative, consultative, and X ray departments, a good diet kitchen and laboratory both elaborately supplied and fitted, and a restaurant for the pupils. A pleasing feature of the school is the resident accommodation for no less than 150 resident pupils or nurses, each having her own bed-sitting room tastefully furnished and decorated, with washing accommodation partitioned off. In addition there is to be, when the building is completed, accommodation for 20 mothers and their infants, and for 20 older children (up to the age of puberty) suffering from nutritional disorders. There will also be out-patient clinics in all branches of child welfare.

THE ROYAL SOCIETY

THE candidates recommended by the Council for election to the Royal Society include three medical men and many others who are working on subjects the development of which is essential to medical progress. Clinical medicine is honoured in the selection of Dr. Gordon M. Holmes, who has managed to combine with consultant and hospital practice the tireless pursuit of research, and has made notable contributions to our knowledge of neurology and to the anatomy of the nervous system. Prof. J. W. McLeod, professor of bacteriology at Leeds, has done important work on the respiration and nutrition of bacteria, on the hæmolysins of streptococci, and on the different strains of diphtheria bacilli. Prof. J. B. Collip, professor of biochemistry at McGill, is known chiefly for his researches on the parathyroid hormone, and on the processes by which this hormone and also insulin could be prepared for clinical use.

Mr. A. S. Parkes, D.Sc., a Foulerton Student of the Society, has investigated the physiology of reproduction and sex, and has demonstrated the properties of the œstrus-producing and other hormones. Mr. W. R. Thompson, D.Sc., superintendent of Farnham House laboratory of the Imperial Institute of Entomology, has worked on the biology and anatomy of parasitic insects, and the inter-relationship between parasites and hosts. Mr. H. King, D.Sc., of the National Institute for Medical Research, Hampstead, is distinguished for his applications of the theory and practice of organic chemistry to substances of therapeutic importance. Prof. E. J. Salisbury, D.Sc., of University College, London, has published numerous original papers on plant anatomy and physiology, and is an authority on the ecology of woodlands and the chalk. Mr. John Hammond, D.Sc., senior assistant in the Animal Nutrition Institute at Cambridge, is distinguished for researches in the physiology of reproduction and growth.

Among those less closely associated with medicine, Mr. P. M. S. Blackett, university lecturer in physics at Cambridge, already well known for his contributions to physics, has recently made a further notable advance in our knowledge[1]; Mr. R. E. B. Crompton, now 88 years of age, was a pioneer in electrical engineering; Prof. H. M. Dawson holds the chair of physical chemistry at Leeds; Mr. A. T. Doodson is associate director of Liverpool Observatory and Tidal Institute; Mr. H. J. Gough, Ph.D., is a civil engineer working at the National Physical Laboratory; Prof. J. E. Lennard-Jones holds the Plummer chair of inorganic chemistry at Cambridge; Mr. Bernard Smith, Sc.D., is a district geologist of H.M. Geological Survey; Prof. A. M. Tyndall holds the Henry Overton Wills chair of physics at Bristol; and Prof. J. H. M. Wedderburn is professor of mathematics at Princeton, New York.

[1] See Nature, Feb. 25th, 1933, p. 286.

THE DOCTOR'S DAY

"Come, tell me how you live," I cried,
"And what it is you do!"

XVIII.—THE MEDICAL OFFICER TO A PUBLIC SCHOOL

My day usually begins the evening before, when I go through my lists of what has to be done—memoranda suggested by the past day's work—and arrange the programme for to-morrow's work. This is necessary as my school work is not a whole-time job and private practice has got to be fitted in; thus method is essential.

THE MORNING

If any cases in the school sanatorium are causing anxiety, either from what I have seen or from reports made to me, the patients are seen before breakfast. To-day there is a case of pneumonia and a case where the symptoms may point to some appendix trouble. I find the former is going on satisfactorily, and with the latter the trouble yielded to an enema. Back to breakfast and letters at 7.45. All letters which permit of the delay wait; I read the *Times* whilst feeding, and by 8.30 I am ready to see the boys who come to my house sent by the housemasters. Consultations go on until nearly 10 A.M.—naturally some days are busier than others, but to fit in with the school organisation the boys ought to have finished with me by that hour. If I have not finished by that time exeats are given, and much appreciated by the patients, who in this way escape class, wholly or partly.

The boy patients fall generally into two divisions, those who believe their condition to be more serious than it is—these come from homes where health supervision is scrupulous if not fussy; and those who would not, or would not readily complain, and whose unfitness has to be detected for them. Of genuine malingering one sees practically nothing, though I do remember that on several successive Monday mornings a hefty youth turned up at the last minute to report sick. After two or three of his visits I got suspicious as the symptoms were subjective—headaches and pains generally, and nothing to be discovered as a cause. I found that recovery always took place in time for games, so I queried the symptoms and freely expressed my doubts, adding, "Come now, what is it? I won't give you away, but you must not pull my leg. To whom are you going this period?" "The headmaster for scripture, Sir," he replied. An exeat was required to exempt him.

There are ten patients this morning. No. 1: This is a recovery from a sharp attack of influenza. He is a senior boy, a good athlete, and expects to do well in sports if he can get fit in time. I tell him that he must go slowly, if not, he will crock up and not be able to compete; and I send a chit of what I think is well within his powers to his housemaster, containing the warning that there is a risk unless those instructions are kept to. I tell the boy to follow the advice and report to me in five days' time. No. 2: This pasty-looking boy is an albuminuric—albumin averages about two degrees Esbach. He is not allowed to take part in strenuous games, or house or school "runs," but trots in his own time, as opposed to timed runs for fit boys. He is on the modified "gyms" list. With exercise kept within due limits it is my experience that these cases clear up during school life; indeed I have only known one that did not, and he was accepted for insurance as a first-class life, with a policy slightly loaded, which he has long ago cleared. No. 3, another candidate for success in sports, very anxiously assures me that he is fit—he had been suffering from influenza. I agree with him, he goes away delighted. No. 4, an "under"—i.e., being under 16—he can compete in junior sports. He is big and well developed, and has a good chance of doing well in his games if he is allowed to compete, but influenza has intervened. He watches me keenly while I percuss him, for next year he will be an "over," when the competition will be very much stronger, and his chances of immediate distinction will be gone. I can tell him he is pretty well all right and to continue to report to me. No. 5: This boy, many would think, ought not to be here, but the family tradition is "public school," and we have a reputation for dealing kindly with our lame ducks. This very lame one has got a congenital heart writ all over him—livid face, ears, and hands, clubbed fingers. His exercise is limited to easy walks and is excused fagging. Would he be better off elsewhere? He is happy, and in a quiet, unobtrusive way the boys are kind—boys can be beasts, they can also be gentlemen. No. 6: This is a case of flat-foot. He reports every fortnight—massage, special exercises, and suitable boots are producing satisfactory results, as is nearly always the case if the disability is detected early. A few years ago one of the very worst cases of flat-foot that I have seen got a place eventually in the football "XV," but our masseuse is a genius. No. 7: This was a football casualty; I removed the big toenail. The other cases need no comment.

The notes indicate the work making up an average consultation morning. There are boys of undoubted delicacy, who are under recurrent inspection; there are cases where early diagnosis is of the first importance; and there are the accident cases. In all these the school doctor has to consider the question of fitness to join in organised games, but I am not digressing into theories as to the place of games in an educational curriculum. The games are here and it is my job as a school doctor to see that the boys get the proper benefit from them and that those who participate in them run no risks.

With regard to such a case as No. 5 noted above, the question may be raised as to what, if any, standard of physical fitness is laid down before the boy is accepted as a member of the school. We have no cut-and-dried system for dealing with new boys on their arrival, finding that the safer way is not to have a medical entrance examination, which so easily becomes perfunctory. We have a paragraph on a "Medical Sheet" which is sent to parents and guardians of our entrants, asking for information about any diseases that have already been incurred and any special illness or weakness to which the boy is subject, and the special cases are dealt with. These boys are examined and a report of their condition is sent to their housemasters with instructions and advice as to the limitations under which the boy should be placed in regard to games and athletics generally. I find this plan to work satisfactorily, and under it unfitness is not suggested to the fit—a very important point. The answers to the Medical Sheet are, of course, valuable information, as we get the home doctor's evidence and advice, but the letter from the home doctor, inspired by the parental views rather than the observed facts, saying that the boy "is not equal to games," may create a difficulty when he is found to be obviously fit upon examination.

When the consultations are over I turn to my letters, and the number of these will be accidental. I receive the medical reasons why a boy has returned late from the holidays; get permission for the performance of a late circumcision, and learn details of the boy's health as observed when he was recently at home. And there are, of course, inquiries about the progress of any boy known to be ill.

Now, at 10 o'clock, a routine visit is paid to the sanatorium, our three hospital blocks of about 70 beds being grouped under that common title. There are this morning 21 boys under treatment, including the already mentioned cases of pneumonia and of suspected appendix trouble. I find them both doing well. A good proportion of the other cases are suffering from the results of influenza.

Several of these are bad subjects; they were born in the hard period closing the war, and as yet are not good physical specimens; they are trying patients, for just as they appear to be getting fit they often relapse. Great patience on our part and theirs may be called for. There are four minor accidents and two cases of jaundice. In the infectious block there are eight cases of chicken-pox; the rash is profuse and the spots are reported to be very irritable, but life is made more tolerable for them by night and morning soakings in fairly strong pot. permang. baths.

After my visit to the sanatorium, usually I call on the headmaster to report, and I am able to say that influenza is slacking off, but that chicken-pox may be coming. At present it is confined to two houses, and I am justified, I think, in saying that it does not seem likely to spread. The position of convalescents who do not get well promptly enough to enable them to re-enter school life is discussed, and I make suggestions for a few days' leave for these lads; the value of change in "school sickness," which I regard as an entity, is very great. Then follow visits to patients in the various houses, the summons having been received by telephone whilst I was having consultations. The invalids are those who were unfit to come to my house. The houses are visited in turn, and to-day this implied half a dozen visits. As a result three boys are sent to the sanatorium, the others, suffering from colds, are sent for walks, with instructions to the various matrons to report to me later. My routine school work should be over by 11.30, and from then until lunch my practice is attended to. The necessity for method, to which I have referred, becomes clear, because the calls of the practice have, with the coöperation of partners, to be fitted in with the school duties, and they must be undertaken in keeping with the school time chart. The motor makes this possible even when some of the visits to be made may mean visiting places far apart.

THE AFTERNOON

In the afternoons, especially at those seasons when games are being played that must entail risk of accidents, I am within call, if not actually on the ground, and two beds, with hot bottles in them, are always in readiness at the sanatorium. To-day boxing competitions are being decided; it is necessary that I should be present. Accidents may happen, or a boy may be having too much punishment. We do not want a fight to a finish which may leave lasting effects on his pluck. The fight should stop before a bad defeat is registered. It happens that I am interested particularly in one competitor. He came here in September, 1931, an Anglo-Indian war baby, and so poor a specimen physically that most of his time during his first and second terms was spent in the sanatorium. There was reason to hope for better things by the summer of 1932, but the unlucky boy got pneumonia about mid-term, made slow recovery, and was not in school for the rest of the term. It seemed hopeless to expect that the life in a public school, whatever the individual care expended, would suit him, and a provisional notice of removal was discussed. He came back in September, 1932, looking better in every way; had a good bill of health—for him—throughout the term, and when weighed in January, 1933, he had put on 12 lb. since September, 1932. One morning three weeks ago he turned up and asked my approval of his boxing. I was astonished, and told him he was not fit for such a trial of endurance. He replied: "I have been training and I'm all right." He fought and beat his man. This was a lame duck; safely across and he will go forward, for a boy who can win a boxing bout is made of the right stuff.

There remain letters to be written, mostly in reply to queries from parents as to progress (medical side) of the boys, and it is now that there occurs to me a suggestion that a change of air might be useful to a boy who comes under consideration. I am told that at many public schools this sort of leave is not allowed during term, unless in extreme cases, but our Head deals sympathetically with requests from parents, if I agree that benefit will follow.

The day ends with an after-dinner visit to the sanatorium, when there is anything special to talk over with the matron of the happenings of the day, or in formulating plans for the morrow.

THE DIFFICULTY OF EPIDEMICS

I have not dealt with the most trying part of the M.O.'s school work; this occurs in times of epidemics of the infectious diseases—i.e., scarlet fever, measles, German measles, diphtheria, mumps, and chicken-pox. My way of dealing with them is as follows. To begin with I look up in THE LANCET on Friday mornings the section on the incidence of infectious diseases, and see what is happening all over the country and therefore what may happen here. Early detection and isolation of a suspected case may and does limit epidemics. I have got the housemasters, and all those in charge of the boys, to see the value of detection as early as possible; they know that it is the first 24 hours that may make all the difference to the course of an epidemic by lessening the risk of the infected boy mixing with others. One result is that for several years scarlet fever and diphtheria have been confined to the original cases. In scarlet fever, the most difficult disease here, the rash calls for early attention and boys can be seen before much risk has occurred of their infecting others. Before the arrival of the Dick and Schultz-Charlton tests we were much handicapped, for though the rash and other symptoms pointed to scarlet fever, there were links wanting in the diagnostic chain. We dare not risk an epidemic; it was a case of "wait and see," and cases were isolated for weeks which I am now quite sure were not scarlet fever. The infected house was isolated, feelings of uncertainty kept the school authorities on tenterhooks, and parents generally, when they got to know the position, wanted their boys home. The M.O. was a sorely tried man. Now all that is changed. If there is reason to think that the inmates of a house are infected the house is isolated, all the inmates are Dick-tested within 12 or 18 hours, the non-immunes are given a dose of anti-scarlet serum, the immunes return to school, and not more than a couple of days' work are lost. The patient is treated with the serum which so modifies the course of the disease that instead of six or seven weeks, he is out of the sanatorium by the end of the fourth week. If the rash is doubtful the Schultz-Charlton test settles the question.

Diphtheria is more difficult, because of the carrier whom one has got to remember, but the Schick test spares much worry. A procedure similar to that with scarlet fever is followed—isolation and testing and serum prophylactic treatment, with a wholesale swabbing of the inmates of the infected house. Cases of measles and German measles and mumps are capable of spreading infection at a very early stage, and outbreaks are not so likely to be stopped promptly. Chicken-pox is troublesome because the first case may be so slight as to escape notice. Whooping-cough can be controlled in my opinion by early use of whooping-cough vaccine, and I have found Knyvett Gordon's diagnostic test of considerable value before the typical clinical symptoms appear.

There remain for mention two serious forms of disease for which we have always to be on the watch—the mastoid and appendix cases. It is a crime if a boy complains of earache and his complaint is not reported to the M.O., and here this is well understood by all concerned. And the temperatures are always taken in what are colloquially termed "bilious attacks" with pain, and if only a slight rise is registered the case must be reported at once. Appendicitis is thus seen early and here again the blood film is often the deciding factor.

SANITARY SUPERVISION

I am responsible for the sanitary supervision of school buildings, but here my duties are practically nil, unless some particular point is brought up. All

the buildings are thoroughly up to date, and most have been modernised or even built since the war. During the summer holidays all the drains are inspected and tested by an expert, detailed reports of each school building and house are sent to me, when any suggestions for cleaning or repairs are dealt with before beginning of term. I regularly inspect the milk-supply. Samples are taken from time to time and warnings are sent where necessary—they have seldom been necessary.

A PLEASANT LIFE

To me school work is full of interest. The boys are "decent," and one knows what a boy means when he allows that a thing is "pretty decent." They will be boys, and he who forgets this and tries to make them or regard them as anything else asks for trouble, so I don't try. If you play fair with them and follow their reasoning they respond. I have said that my job is not a whole-time one, and herein lies the saving from possible "narrowing" with its necessary sequence of limited outlook. My general work helps to strike a balance, and one is brought into contact with educated people, not a one-sided folk at a school. The general school life with its lectures, concerts, and functions affords interest and it is always possible to get a "four" when one feels like a game of bridge. My favourite amusement is shooting over dogs trained by myself. There is just enough game on my small shoot here to get a brace or two of birds in the hours I can spare on quiet afternoons.

PANEL AND CONTRACT PRACTICE

Temporary Residents

JUDGING by the figures supplied by the Ministry of Health to the distribution committee the position with regard to temporary residents has not improved in the last year. Certain industrial areas naturally send their convalescent cases into other areas to recuperate after illness, and as they will not be likely to have as many cases sent into their area for this purpose the balance on these cases is negative, so that money has to be deducted to pay for temporary residents treated outside. Working on a percentage basis it may be said that for every 10,000 insured persons on their lists certain committees pay out for the following numbers of temporary residents placed against them in the three years:

	1930.	1931.	1932.
London	54	55	56·9
Birmingham	33	31	33
Newcastle	18	41	16
Manchester	33	36	36
Liverpool	19	19	18
Average deductions for England	—	20·8	20·7

London again shows a tendency to increase its indebtedness to outside committees, although its panel strength in percentage of the whole panel is going down, being only 12·8026 in 1932, while it was 12·9748 in 1931, and 13·0797 in 1930. (The total number of insured persons is, however, slightly up, being 1·917,000 against 1·904,000 in 1931.) The deduction for London is in fact well over double that of the average for all deduction for England. With the idea of trying to obtain a more equitable position it was decided by the distribution committee to cut down the fees allowed for treatment of temporary residents in institutions and convalescent homes from 2*s*. to 1*s*. It will be generally agreed that it was quite time something was done about the position of convalescents in these homes. Patients who often do not see the doctor to the home, and are certainly not in need of medical attendance, have their cards taken from them by the appointed collector (the matron of the home, it may be), and claims for temporary resident treatment are made for each case in the home. It is not surprising therefore, on examining the temporary resident figures for places where these convalescent homes abound, to find a large addition per 10,000 of the panel. Instances of this are:

	1930.	1931.	1932.
Southport	440	447	484
Blackpool	593	501	592
Hastings	384	348	359
Isle of Wight ..	178	176	185
Average additions for England	—	18·4	19·1

It will be interesting to see what effect the reduction in payment for convalescent home cases will have on next year's deduction and addition figures for temporary residents.

Road Accidents and the Police

A decision of the Middlesex Insurance Committee on a case in which the police called an insurance practitioner in to attend one of his own patients, who had met with an accident, would seem to be entirely contrary to the agreement recently arrived at. These emergency police cases had been giving rise to difficulty. What usually happened in the past was that some well-meaning onlooker of an accident would rush off to his own doctor, who would turn out and probably do what was necessary as first-aid, only to be told by the police that they had not sent for him and would not be responsible for his fee. So far, strictly speaking, the police were correct, but a new complication arose when the police themselves called a doctor to render aid to a patient who was an insured person. They were then in the position to say to any insurance doctor who responded that he was bound, under the regulations, to attend gratuitously. The necessity for calling in a doctor for a street accident is left by the police authorities to the constable on duty, who is not encouraged to incur medical expense unless urgent treatment seems to him to be required before removal by ambulance—e.g., severe hæmorrhage or shock. The position now is that the police will pay on an agreed scale of fees if the patient cannot afford to do so. In the Middlesex case it is not stated in the report whether the injured man was in a position to pay his own doctor an emergency fee on the police scale, but it would seem clear from the agreement between the Ministry of Health and the Insurance Acts Committee that when the police call any doctor—insurance or not—to a street emergency they are responsible for the fees. Had this agreement been known to the Middlesex insurance committee they could hardly have censured a practitioner for receiving a fee in respect of a police emergency call to one of his patients.

KING EDWARD'S HOSPITAL FUND FOR LONDON.—Hospitals within 11 miles of St. Paul's desiring to participate in the grants made by this Fund for the year 1933 must make application before March 31st to the hon. secretaries of the Fund at 7, Walbrook, London, E.C.4. Applications will also be considered from convalescent homes which are situated within the above area or which, being situated outside, take a large proportion of patients from London.

CORRESPONDENCE

EARLY DETECTION OF MALIGNANT DISEASE

To the Editor of THE LANCET

SIR,—The interesting correspondence on this subject which has been appearing in your columns centres about the possibility of the early diagnosis of cancer, and about the psychological effects of periodic special examination. I am, of course, incompetent to define the precise stage at which malignant disease can be detected, but I should have thought it obvious (*a*) that the earlier it can be detected the better for the patient, and (*b*) that periodic examinations are more likely to do this than chance or irregular examinations.

In the psychological part of this discussion naturally I feel more at home. There can be no doubt that one effective method of treating patients who suffer from dread of cancer is the definite assurance afforded by periodic examination that these fears are without foundation. But surely it would be more scientific to refer such cases to the psycho-pathological expert so that he may discover the mental cause of their fears and endeavour by treating the cause to abolish its consequence?

Your correspondents however have argued that whatever good periodic examination may do to those suffering from carcinophobia, it will do at least equal harm by suggesting such a phobia to those hitherto free from it. That seems to me bad psychology. There are great numbers of people who pay regular visits to their dentist for periodic examination and (so my wife assures me) there are among them many women who dread caries, pyorrhœa, consequent extraction, and loss of personal beauty. Can anyone suppose that this dread is seriously extended among those in whom it has not hitherto existed, by periodic dental examinations? So too the fear of death is not uncommon among certain individuals. Will it be argued that a periodic general medical examination is likely to increase the number of persons suffering from this fear?

No. At most a periodic examination will only direct fears and anxieties from an older channel towards a new one. It is their *causation* which requires treatment, not their particular *expression*. In other words, malignant (and other) disease needs to be combated by periodic surgical (and medical) examination; while at the same time the dread of any disease needs to be combated by suitable psycho-therapeutic measures.

I am, Sir, yours faithfully,

CHARLES S. MYERS.

Montagu-mansions, W., March 6th, 1933.

DICHOTOMY

To the Editor of THE LANCET

SIR,—Your anonymous correspondent, the "unwilling accomplice," has clearly demonstrated that he lacks the guts and imagination to deal with his own problems. Do the pitiful meanderings of his conscience deserve the sympathy of the still dignified profession upon which he casts an unwarrantable slur? His remedy is perfectly simple. If he would only show the door to his shady associates, he might in time acquire a decent clientele. Let me assure him that a very large majority of the general practitioners of this country would promptly show *him* the door if he dared to suggest dichotomy to them. On the other hand, better men than he have starved for causes far less worthy than the honour of the medical profession. Has he not yet learnt that it is practically impossible for a straight player to beat a four-flusher at his own game? If he really wants to observe the strict rules, let him sit tight. His turn will come, *if he can play well enough* to seize his legitimate opportunities.

His statements imply that his reputation as a dichotomist, willing or unwilling, has been noised abroad. Personally I have come into contact with a fairly extensive variety of general practitioners since the war. Amongst the many who have failed to appreciate my professional qualities after one or two consultations, there may have been some who have resented my lack of commercial enterprise! But on two occasions only, throughout the whole of this period, have I been asked, directly or indirectly, to split a fee. In each case the amount concerned was trivial; and in each case the doctor was obviously a man of straw.

By all means let us have an association of consultants; but do let us black-ball at its foundation the whole tribe of dichotomists, whether they are practising or reformed—i.e., potential. They can form their own union, stiffen each other's spines, or pick each other's pockets, and the appendices of the public, as they please. One may hope that any genuine association of consultants in process of formation will consist of those who are consultants *in the strict sense of the term*; and that it will exclude the chameleon consultant or facultative G.P., as well as those whole-time mountebanks who are pleased to adopt the title. All these versatile performers, distinguished or otherwise, have quite sufficiently fomented internecine strife during the last 15 years—to the great disadvantage of the profession and the public. We certainly cannot afford to follow *their* example; although their transient success has possibly created envy in the heart of the "unwilling accomplice." *Ne sutor supra crepidam.*—I am, Sir, yours faithfully,

Harley-street, W., March 3rd, 1933. FRANK COOK.

To the Editor of THE LANCET

SIR,—Some years ago, when you were publishing a weekly article on "The Battle of the Clubs," a friend of mine bought a practice in a town where the club system was rife. One of his patients developed intestinal obstruction and a surgeon was called in. He decided to operate, and at the consultation my friend, not without some show of reason, advanced the view that as the surgeon was taking 50 guineas from the club-patient for about an hour's work, while he himself would have to attend him for a month and find all dressings for about a penny a week, it would be a gracious act if he handed over a part of the fee. How the argument would have ended I cannot say, as the nurse broke up the consultation with the news that the patient's bowels had acted freely.

I am, Sir, yours faithfully,

Bath, March 4th, 1933. R. L. WASON.

LEITH MURRAY MEMORIAL FUND

To the Editor of THE LANCET

SIR,—A committee has been formed with the object of raising a memorial to the late Prof. H. Leith Murray.

The members of the committee—Prof. A. Leyland Robinson (Chairman), Surgeon-Commander L. S. Ashcroft, V.D., Mr. Duncan A. Campbell, Prof. W. J. Dilling, Mr. A. A. Gemmell, Mrs. Tom Temple,

Mr. R. H. Thornton, and Mr. George Leather, F.C.A.—represent the various activities with which he was associated, and they consider that the most appropriate form of memorial would be the foundation of an annual Leith Murray Prize or Scholarship in obstetrics and gynæcology at the University of Liverpool. Donations towards this object, both large and small, will be gratefully acknowledged, and contributions should be sent to Mr. George Leather, 24, North John-street, Liverpool.

I am, Sir, yours faithfully,

Liverpool, March 2nd, 1933. A. LEYLAND ROBINSON.

CHRONIC INFECTION OF THE SACRO-ILIAC JOINTS CAUSING SPONDYLITIS

To the Editor of THE LANCET

SIR,—The clinical classification of spondylitis in current use is dependent to a large extent on the changes noted in the spine in radiograms. On this basis spinal arthritis can be divided into two distinct types.

(*a*) *Spondylitis adolescens.*—Considered to be an infective or inflammatory arthritis of the spine, which attacks the young adult. A pathological condition of the sacro-iliac joints is always present, usually noted radiographically as bony ankylosis. The sedimentation-rate in these cases supports the view that infection is a cause. This group includes the Marie Strümpell, Bechterew, and ankylopoietica types, and also "poker back" and "bamboo spine."

(*b*) *Spondylosis.*—A degenerative arthritis that attacks the older patient, better known as spondylitis osteo-arthritica or "labourers' spine." The sacro-iliac joints never show any changes radiographically, and there is no abnormality of the sedimentation-rate. Unfortunately, in many cases, the changes seen in radiograms represent only the end-results of a long-standing arthritis, and are as variable as those met with in pulmonary tuberculosis.

Once the disease has become established, therapy in any form may be considered useless, although spontaneous arrest at various stages of the disease has been known to occur. Recent work at the British Red Cross clinic, however, has brought to light the following interesting facts:—

(1) All cases of spondylitis adolescens so far examined radiographically have shown in one or, more often, both sacro-iliac joints, signs of chronic infection, such as bony ankylosis.

(2) This sacro-iliac joint infection begins several years before there are any symptoms referable to the back.

(3) The onset of the infection is indicated by a definite prespondylitic syndrome consisting of attacks of wandering pains across the shoulders, down the arms and round the ribs, and finally down the legs to the knees and up to the hips. At this stage these cases are clinically diagnosed as muscular rheumatism.

(4) No spinal symptoms, such as rigidity and pain, are complained of until ankylosis of the sacro-iliac joints has begun, and often not until it is complete.

(5) The radiographic examination of the sacro-iliac joints during this prespondylitic period has revealed the early stages of infection—the stages that precede ankylosis—which, up to now, have not been detected.

These findings appear to be of considerable importance, for not only do they go to prove that the primary cause of spondylitis adolescens is an infection of the sacro-iliac joints, but also account, in many instances, for the attacks of so-called muscular rheumatism which occur in the young adult. In cases of "muscular rheumatism" which persist over a number of years without any local signs in any of the joints, a radiographic examination of the sacro-iliac synchondrosis should be made, for prognosis must necessarily be more hopeful if infection is detected at an early stage.

With regard to treatment, trephining and curetting of the sacro-iliac joints is a procedure that might be expected to do good. An alternative, less drastic form of treatment has been tried in a few cases, with encouraging results. This method consists in irradiating the whole spine, including the sacro-iliac joints, by X rays of medium wave-length.

We are, Sir, yours faithfully,

S. GILBERT SCOTT, M.R.C.S. Eng., D.M.R.E.,
Hon. Radiologist to the British Red Cross Clinic for Treatment of Rheumatism, Peto-place;

F. C. GOLDING, M.R.C.P. Lond., M.B., Ch.M. Sydney,
Clinical Assistant to the X Ray Department of the Clinic.

CONTROL OF INFECTIONS IN CHILDREN'S WARDS

To the Editor of THE LANCET

SIR,—We are in entire agreement with practically every point raised by Dr. Spence in his letter of Feb. 25th. A great deal of work has been done on the control of the usual infections of childhood, so that we can now face with equanimity the occurrence of cases of diphtheria, scarlet fever, and measles in a children's ward. At the Children's Hospital in Great Ormond-street, after preventive inoculation, children are operated upon in surgical wards on the nasopharynx, even if a case of scarlet fever has been notified 24 hours previously. With regard to naso-pharyngeal infections, a great deal of work has been done recently, particularly in connexion with hæmolytic streptococcal throats, and it is of interest to note that Dr. Bernard Schlesinger has observed a marked diminution in the spread of these infections in his Heart Home at West Wickham, by the simple expedient of alternating children in adjacent beds—placing them from head to foot. This doubtless acts by reducing the effects of droplet infection. In the suggested plans for the rebuilding of the Great Ormond-street Hospital, the arrangements are such that no ward unit will contain more than eight cots, and these will be separated by a partition into two groups of four each. The cots will be placed parallel to the windows, resulting in a similar head to foot arrangement to that at West Wickham.

Dr. Spence instances pyloric stenosis, where the prognosis between the private and hospital cases differs so considerably. We can bear this out from our own experiences. In addition we can recall cases which have been admitted for a simple surgical operation, such as radical cure for hernia or the treatment of a nævus, which have become infected in hospital before any operation has been done; the sequence of events being perhaps tonsillitis, otitis media, double mastoid, and septicæmia. These unfortunate complications, which are by no means isolated cases or confined to one or two institutions, are inherent in the present system—which obviously needs to be changed.

We are in entire agreement with Dr. Spence on the question of the nursing staff, and believe that once the difficulty of the housing of nurses can be overcome, and adequate nurses be available, no nurse should be responsible for more than one or two children. We firmly believe that dysentery in children, and therefore most probably that bugbear of all children's

hospitals—epidemic gastro-enteritis with bacteriologically negative stools—are conveyed by nurses who, under the present system, combine the duties of feeding the children and attending to them after defæcation. We maintain that no nurse who is responsible for the feeding of any patient should handle stools, whether they are considered infectious or not. The ever persistent danger of carriers amongst nurses of anything from simple coryza to virulent Klebs-Löffler bacilli spreading their infections to their charges should be excluded by *regular* and efficient examination of nurses, by routine gargling, wearing of masks when attending young infants, and by less strenuous working hours.

We are, Sir, yours faithfully,

DAVID NABARRO,
A. GORDON SIGNY.

London, W.C., March 4th, 1933.

BLOOD PRESSURE AND CANCER

To the Editor of THE LANCET

SIR,—I should be grateful for help from any readers of THE LANCET who may be in a position to supply me with definite information as to the range of blood pressure in patients suffering from cancer—more especially in the earlier stages of the disease. Recently it was suggested to me that in cancer the blood pressure may, on occasion, be found to be raised considerably above what can be regarded as normal for the age of the patient. But thus far I have not come across a reference to any statistical evidence on the subject; and I am informed that no information is at present available at the Cancer Hospital.

I am, Sir, yours faithfully,

S. MONCKTON COPEMAN.

Prince Arthur-road, N.W., March 5th, 1933.

CHLOROFORM CAPSULES

To the Editor of THE LANCET

SIR,—Some misunderstanding seems to have arisen in connexion with my remarks on the use of chloroform capsules at the meeting of the National Birthday Trust Fund noticed in THE LANCET last week.

So many users reported the difficulty of one single attendant administering the capsules and conducting the labour, that I thought it wiser at this stage to state that two people should be present, and I carefully did not state "two midwives." A second nurse attendant, or a pupil midwife, or even an intelligent relative acting under the direction of a qualified midwife, should in my opinion fill the requirements.—I am, Sir, yours faithfully,

LOUIS CARNAC RIVETT.

Harley-street, W., March 6th, 1933.

THE ADMISSION OF WOMEN TO THE G.M.C.

To the Editor of THE LANCET

SIR,—I find to my dismay that an article with photograph has appeared in the lay press, dealing with the question of my possible nomination as a candidate for the General Medical Council. I need hardly say that this was inserted without my knowledge or consent. If I should have the honour to be selected by the British Medical Association as one of their candidates for the G.M.C. election for direct representation, it would be as a member of that Association and on my record of work in it that I should stand, and if so fortunate as to be elected would serve as a representative of the whole profession and not of medical women only.

I am, Sir, yours faithfully,

CHRISTINE M. MURRELL.

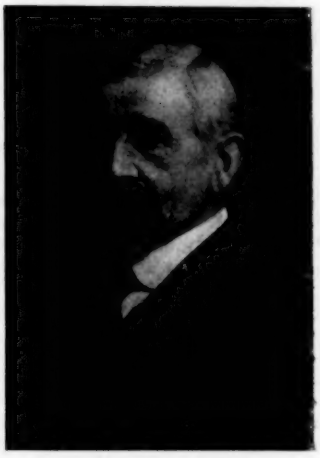
Porchester-terrace, W., March 6th, 1933.

OBITUARY

EDMUND HOBHOUSE, M.D., F.R.C.P. Lond.

WE regret to record the death of Dr. Edmund Hobhouse, which occurred at Grosvenor Hill, Wimbledon, on March 2nd, in his 73rd year.

Edmund Hobhouse was born in 1860, the eldest son of the Right Rev. Bishop Edmund Hobhouse, Bishop of Nelson, N.Z., by his first wife, Mary Elizabeth, daughter of General the Hon. J. Brodrick. He was educated at Eton and New College, Oxford. At Oxford he took classical honours in 1883, and later, deciding on the medical profession, he graduated M.B., B.Ch. in 1887, his clinical work being done at St. Thomas's Hospital, and supplemented later by post-graduate courses in Berlin and Vienna. At St. Thomas's Hospital he became both assistant house surgeon and house physician, and later was for a time attached as a resident physician at the Bethlem Royal Hospital. Further post-graduate work on the continent was interrupted by a breakdown in health, and he was advised not to attempt to practise in England. For the next five or six years accordingly he practised in Colorado and on the Riviera, but in 1895 he returned to England and settled in Brighton. Here he acquired a large practice. He had taken the diploma of M.R.C.P. Lond., and was appointed physician to the Sussex County Hospital and the Alexandra Children's Hospital.



DR. EDMUND HOBHOUSE

[*Photograph by Vandyk*

At the outbreak of the European war Hobhouse, with the rank of Lieut.-Colonel R.A.M.C., T.F., was in command of the Second Southern General Hospital at Brighton, and at the end of hostilities he remained there for a further six years in consulting practice, being elected F.R.C.P. Lond. in 1901. In 1924 he retired from the Brighton practice, and served for a period as a member of the Travelling Medical Board of the Ministry of Pensions.

On the termination of these duties he retired from the profession, living first in Kensington, and finally in Wimbledon. Latterly his health began to give way, and for some time he suffered severely from attacks of obscure pain. The disability did not prevent him from taking a deep interest in the antiquarian side of medicine and cultivating his literary proclivities. He had already edited "Health Abroad," a large portion of which he wrote himself, and he contributed much useful reading to THE LANCET, especially in regard to continental literature, where his familiarity with three languages made up a valuable asset.

Dr. Hobhouse married, in 1896, Beatrice Hutton, daughter of Mr. H. E. Hutton, housemaster at Harrow, and is survived by his widow, a son, and a daughter.

ALARIC CHARLES BALLANCE, M.B. Oxf.

THE death occurred on Feb. 20th, at his house in Hatfield, of Dr. Alaric Ballance. This untimely termination to a useful career has been a source of deep regret to many friends and patients, and indeed to all the neighbourhood, where he was well known.

Dr. Alaric Ballance was born in 1888, the only son of Sir Charles and the late Lady Ballance. He was educated at Eton, Oxford, and St. Thomas's Hospital. At Oxford he took honours in chemistry and graduated in medicine in 1914, in which year he also obtained the English double diploma. At the hospital he acted as gynæcological house surgeon and assistant in the children's surgical department, and was resident accoucheur at the outbreak of the war. He joined the navy immediately as a temporary surgeon, and served in the navy for five years with the most varied experience, in critical circumstances. Commencing with the Antwerp episode, he served at Gallipoli with the grand fleet, and his personal work during the evacuation of Cape Helles was made the subject of public and admiring comment. His experiences at this seat of the war were terrible, on one occasion every officer senior to himself in one particular unit was killed. Later he went through the Battle of Jutland, after which he volunteered to serve in the Suvla expedition, while towards the end of the war he saw further severe service at Archangel.

At the close of the war he settled at Hatfield and obtained an extensive practice, finding time also to do valuable professional public work. He was M.O.H. for the Hatfield rural district, staff surgeon to the Herts Constabulary, and vice-chairman of the East Herts Division of the B.M.A. His professional skill and work, no less than his personal character, were appreciated by a large circle, among whom his death has caused a real gap. He was one more victim to the over-strenuousness of the doctor's life in times of wide-ranging sickness. He was tired out.

Dr. Ballance married a daughter of Sir Walter Tryon, and leaves a widow and four children, the two sons being at present at Eton.

PUBLIC HEALTH SERVICES

Consultants and Specialists at L.C.C. Hospitals

UP to now consultants have in the main been engaged for individual hospitals and institutions of the London municipal service, some being paid annual salaries, others a fixed charge a visit for a minimum number of visits each year, and others a fixed charge for visits as required. On Tuesday last the London County Council approved a scheme for putting the consultant and specialist service as far as possible on a regional basis. The general hospitals have been divided into seven geographical groups with affiliated special hospitals and residential schools; and the specialists are to be available for head office purposes in connexion with the school medical and tuberculosis services, the work of medical examination of candidates, and so forth. In the future consultants will be appointed to the service and utilised as required for a group or groups of hospitals. At every hospital the services are to be available of physician, surgeon, gynæcologist, ophthalmic surgeon, ear, nose, and throat surgeon, orthopædic surgeon, dermatologist, pædiatrist, urologist, radiologist (except at Lambeth hospital), obstetrician (where there is a maternity ward), and tuberculosis officer (under appropriate circumstances). In each group the total estimated number of weekly sessions required is as follows:—

Physicians	27	Ear, nose, and throat surgeons	25
Surgeons	34	Dermatologists	15½
Obstetricians and gynæcologists	16½	Pædiatrists	15
Ophthalmologists	20	Urologists	9½
Radiologists	51	Orthopædists	11

The time required by anæsthetists and neurologists being difficult to estimate, the suggestion is that panels should be formed, and their services utilised as required, and paid for at sessional rates: anæsthetists 34*s.* and neurologists 52*s.* 6*d.* for a session of 2½ hours. Other consultants will be engaged on a basis of yearly salaries; they would work at different hospitals to each of which they would be definitely attached for a fixed number of sessions a week, undertaking in addition any emergency work. The salaries proposed are held to cover operations. The minimum period for which each consultant or specialist is appointed is normally to be two sessions a week of approximately 2½ hours each. Salaries of the part-time staff are to be fixed on the following basis:—

1 session a week	£125 a year.
2 sessions „	£200 „
3 „ „	£275 „
4 „ „	£350 „
5 „ „	£425 „
6 „ „	£500 „

In the event of being required to divide one session's work between two or more hospitals, the time spent in travelling from one hospital to another is to be regarded as part of the session.

With a view to the possibility in the future of full-time consultant positions in the service, certain officers at present on the hospital medical staff are to be detailed for part-time consultant work, additional staff being employed to ensure that the work at these hospitals does not suffer. The salary of a full-time consulting physician or surgeon is fixed at £1250–£50–£1500 a year (no emoluments), that of a full-time radiologist at £900–£50–£1100 a year.

The appointment of part-time consultants and specialists is to be subject to annual review. In the case of a woman, marriage shall terminate her contract of service. In view of the linking up of special hospitals with general hospitals, a number of the existing positions of consultant at the special hospitals will be discontinued; a list is given in the agenda paper of the officers whose position at present is to be retained. The new scheme is to come into force on July 1st, 1933. Notice of termination of engagement on June 30th is to be given to consultants and specialists now in the hospital service, who will be informed that the question of their re-engagement after that date will depend upon the arrangement made for the provision of a consultant service.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED FEB. 25TH, 1933

Notifications.—The following cases of infectious disease were notified during the week:—Small-pox, 22 (last week 18); scarlet fever, 1564; diphtheria, 768; enteric fever, 15; acute pneumonia (primary or influenzal), 1436 (last three weeks 5151, 4106, 2228); puerperal fever, 33; puerperal pyrexia, 104; cerebro-spinal fever, 55; acute poliomyelitis, 6; encephalitis lethargica, 12; dysentery, 4; ophthalmia

neonatorum, 69. No case of cholera, plague, or typhus fever was notified during the week.

The notifications of acute pneumonia (primary or influenzal) were below the expected number (based on the median value of the corresponding weeks of 1924–32) by 31 per cent. in England and Wales, and by 33 per cent. in the County of London.

The number of cases in the Infectious Hospitals of the London County Council on Feb. 28th–March 1st was as follows:—Small-pox, 56 under treatment, 1 under observation (last week 64 and 3 respectively); scarlet fever, 1556; diphtheria 1570; enteric fever, 6; measles, 286; whooping-cough, 668; puerperal fever, 22 (plus 10 babies); encephalitis lethargica, 232; poliomyelitis, 1; "other diseases," 338. At St. Margaret's Hospital there were 20 babies (plus 15 mothers) with ophthalmia neonatorum.

Deaths.—In 118 great towns, including London, there was no death from small-pox, 1 (1) from enteric fever, 31 (2) from measles, 1 (1) from scarlet fever, 50 (17) from whooping-cough, 29 (4) from diphtheria, 46 (7) from diarrhœa and enteritis under 2 years, and 344 (74) from influenza. The figures in parentheses are those for London itself.

No great town reported as many as 20 deaths from influenza, and only Birmingham (19) and Manchester (11) reported more than 10. Measles accounted for 4 deaths each at Hull, Liverpool, and Birmingham; whooping-cough for 3 deaths each at Liverpool, Middlesbrough, and St. Helens. Four deaths from diphtheria occurred at Acton, 3 at Manchester.

The number of stillbirths notified during the week was 256 (corresponding to a rate of 45 per 1000 total births), including 27 in London.

PARLIAMENTARY INTELLIGENCE

NOTES ON CURRENT TOPICS

Housing and Slum Clearance

ON March 6th in the House of Commons the Housing (Financial Provisions) Bill was considered on Report.

Sir P. HARRIS moved an amendment providing that the houses, to be built under the guarantees, except where otherwise approved by the Minister on the recommendation of the local authority, should be provided with a fixed bath.

Mr. SHAKESPEARE (Parliamentary Secretary to the Ministry of Health) agreed that a bath was an absolute essential to a house, but said that the amendment was unnecessary. The matter could safely be left to the discretion of the Minister.

In the course of the subsequent debate Sir FRANCIS FREMANTLE and several Members urged the Minister to reconsider the matter.

Sir E. HILTON YOUNG (Minister of Health) accepted the amendment, which was agreed to.

A further amendment, moved by Mr. GREENWOOD, to provide bathrooms as well as baths was rejected.

The Report stage of the Bill was concluded.

A New Epoch in Housing

Sir E. HILTON YOUNG, in moving the third reading of the Bill, said that the Government had seized the opportunity of the fall in building costs, in the price of capital for investment of this sort, to look forward to a more fertile and more productive epoch in housing—one in which those larger forces might be brought into play which had been so long checked by the insuperable obstacles of subsidised competition. They had a second line behind private enterprise, the line of the local authorities, and their liability and duty would be still to tend the housing needs of their locality. With the present level of money, it was within the capacity of local authorities to provide houses at rents which were within a few pence of the rents fixed as ideal under the subsidy. Then there was also the building society scheme. That had never been put forward by the Government as an essential part of their housing plan, but it had been put forward as a valuable aid in the promotion of that free play of the forces of private enterprise which was, in itself, an essential part of the scheme. It was a little practical step which might have great results. They could do no finer service for housing than to secure the services of the millions available in the hands of the building societies. It would be impossible to obtain from any other source so free a supply of capital at so low a rate. It was not true to say that only three societies were prepared to work the scheme. He had been in touch with nine societies, including the biggest, with total capital assets of £150,000,000, who were prepared to operate the scheme. Referring to the committee he had appointed to carry out a review of new conditions, he said that there would be no question of replacing the direct subsidy by the indirect subsidy, which would have an even more powerful effect in discouraging private enterprise.

Dealing with the plan of campaign by which the Government were going to wage war on the slums, the right hon. gentleman said that since the second reading of this Bill they had seen a remarkable demonstration of public opinion all over the country on this subject, and it left no doubt that the resolution of the country was to press the warfare against the slums in a determined and effective manner. (Cheers.) There was a clear demand for action. It was 60 years since the first provision was made by Statute for slum clearance, and in all that period the average annual rate of persons affected by a demolition of slums had been fewer than 3000 a year. It was 14 years since a subsidy was devoted to slum clearance, and in those 14 years the total number of houses affected was no more than 15,000; some few more than 1000 a year. There had been no progress adequate to the evil. Subsidies had only succeeded in scraping the surface of the evil. The basis of the programme he was now announcing was that there could be no more delay or trifling with the problem. He proposed to call on every local authority which was a housing authority to prepare a survey of its area from the point of view of slums and to follow that survey with a programme for the abolition of the slums so revealed. A distinction would be made between those areas which could be dealt with by reconditioning and those which required the more radical remedy of clearance. It would be suggested that the programme should state the periods during which each of the areas would be dealt with. The programme would also provide that a reconditioning area, when all the effects of reconditioning were exhausted, should become a clearance area. In consequence of the provision of a time limit for the programmes, they would secure that every dweller in the slums would have the assurance that within a limited time he would obtain deliverance from the conditions in which he dwelt. There were in existence five area programmes under the Act of 1930, but they were not sufficient for the present purpose, because they were not drawn up with the special object which the Government now had in view—namely, concentration on an effort to end the slums. They were drawn up with a view to the provision of a programme for the provision of houses in general, and must therefore be replaced by a special programme such as he had referred to. The part of the Government in this campaign would be no less direct than that of the local authorities. Its first action would be the provision of the essential finance. They would set no limit to the number of houses that might be thus dealt with. Every house that was unfit for human habitation should be dealt with as quickly as possible—the quicker the better. (Cheers.) The Government would stimulate and assist the local authorities in the preparation of their surveys and programmes. That was in general the

function of the general inspectors of the Ministry, but there was a certain weight of inertia to lift, and, therefore, he proposed to assist the local authorities in the preparation of their surveys and programmes by a flying squad of special experts from the Ministry of Health, whose function would be to stimulate initiative where such stimulation was needed and to give technical assistance and advice in the preparation of the programmes.

There were ample powers under the Act of 1930 to enable the Minister to carry out this programme in consequence of the passage of this Bill, and in case of need there would be no hesitation to put those powers into force.

Mr. GREENWOOD said that the only idea of the Bill was a return to private enterprise. The Bill contained no single constructive proposal and no word dealing directly or indirectly with slums.

The Bill was read the third time by 233 votes to 66.

Compensation for Road Accidents

In the House of Lords on Tuesday, March 7th, Lord DANESFORT moved the second reading of the Road Traffic (Compensation for Accidents) Bill. He said that their Lordships were all agreed that there must be some remedy devised for the present intolerable state of things on the roads. Instead of the numbers of deaths and injuries being decreased they had actually increased. The difficulties in the way of the pedestrian getting compensation were very great under the existing law. Under the present Bill there was a right given to the pedestrian to claim compensation without proof of negligence on the part of the motorist, but there were two important exceptions—namely (1), where the injury was solely caused by the negligence of the person injured; and (2) where the injury was caused by the negligence of the person injured coupled with the negligence of a third person. The proviso limited the operation of the Bill to pedestrians and pedal cyclists, the claims of motorists *inter se* being met by the existing law. Clause 2 gave the right to a motorist in a case where he had to pay under the Bill, because his car had actually caused the damage, to obtain an indemnity from a third person by whose negligence the accident was really caused. Owing to the accidents on the roads the hospitals throughout the country were to-day put to enormous expense, of which they could recover under the existing law only a small part. If this Bill went into Committee he would gladly welcome any amendment that was brought forward by the hospital authorities to put the hospitals on a more favourable position than they now were. (Cheers.)

Lord MOYNIHAN, in support of the Bill, suggested that the yearly toll from motor casualties now equalled the total mortality and injuries of two and a half years of the South African war. He described the unfair situation in which the medical profession was placed by this frequent occurrence of serious road accidents, and suggested that there should be a central pool established by the insurance companies, that the pool or fund thus created should be vested in a competent body, and that payments from that fund should relate only to first-aid treatment. A registered medical practitioner who rendered first-aid treatment should be paid a fee from the pool unless he was otherwise remunerated for his services. Such payment should not be regarded, as at present, as an admission of liability by the insurance company; and the medical report should be available free to the coöperating insurance company and on payment of a fee to any other insurance company. He thought that such a plan would do a great deal to remedy the disadvantages from which medical practitioners were now suffering.

The effect on the hospitals of the Road Traffic Act, Section 32 Subsection (2) was intended to be beneficial, but in actual practice it had proved to be nothing of the kind. During the year 1931 he was informed by the British Hospitals Association, on the board of which he sat, that there were 25,000 motor accidents taken to the voluntary hospitals as in-patients; that the cost to the hospitals was £225,000; that the claims received were £35,000; that was to say, that 16 per cent. of the cost of the treatment of the patients was paid after claims had been made to the insurance companies. The cost borne by the various hospitals varied from 45 per cent. at the Westminster Hospital to 81 per cent. at Guy's. Unhappily, the burden which was borne by the hospitals was chiefly borne by the smaller hospitals. In those hospitals which had over 50 beds, 37 per 100 beds per annum were taken up by motor accident cases, whereas in those hospitals which had less than 50 beds, 77 motor accident patients per 100 beds per annum were admitted. The intended benefit to hospitals under the Road Traffic Act resulted in only one-sixth of the cost being borne by any one authority outside the hospitals, and nothing whatever was done in respect of out-patient treatment which might be in itself very costly. Motor accidents caused a disturbance to the routine work of the hospitals which he thought was most objectionable. The routine of a hospital was not only concerned with the treatment of patients from the immediate neighbourhood and from very far abroad, but quiet clinical research was going on which was so important and this had to be compulsorily set aside. Further, these accidents added to the hospitals' waiting-lists. He thought there ought to be a rather different point of view in any legislation of the future on this matter. (Cheers.)

The Earl of HALSBURY opposed the Bill, the principle of which, he said, was quite wrong.

Viscount BUCKMASTER supported the Bill.

Earl HOWE said that he did not quite like Lord Moynihan's suggestion of a central pool, but if some sort of legislation could be introduced on the lines indicated by the noble lord, he would welcome it so as to enable the medical profession and the voluntary hospitals to get payment.

The LORD CHANCELLOR, speaking personally and not as the Lord Chancellor, supported the principle of the Bill.

After further debate,

The Earl of PLYMOUTH, replying for the Government, said that while there was a considerable amount of precedent for altering the principle of the law in regard to the onus of proof of negligence, in the opinion of the Government Lord, Danesfort's Bill went a great deal too far. He suggested that if the Bill was given a second reading, Lord Danesfort might be willing to move that the Bill be sent to a Select Committee, so that the whole matter might be fully examined.

Lord DANESFORT agreed to this course, and the Bill was read a second time by 31 votes to 2.

The Bill was then referred to a Select Committee.

HOUSE OF COMMONS

WEDNESDAY, MARCH 1ST

Physical Fitness and Motor-driving Licences

Mr. ROSS TAYLOR asked the Minister of Transport if, in view of the number of accidents on the roads, some of which were due to physical disability and, in particular, defective vision on the part of drivers, he would institute a system for testing the declarations in regard to physical fitness made by applicants for motor-driving licences.—Mr. OLIVER STANLEY replied: Under the Road Traffic Act, 1930, every applicant for a licence to drive a motor vehicle is required to make a declaration in a prescribed form as to his physical fitness, including eyesight. Any person who knowingly makes a false statement is liable to severe penalties under the Act. I have no evidence to show that false declarations are frequent and, in any case, I think it would be well to gain some rather longer experience of the operation of the provisions of the Act before coming to any conclusion as to the need for imposing further requirements in regard to physical fitness.

Abatement of Noise

Mr. LOVAT-FRASER asked the Minister of Transport if he was aware that the noise abatement committee of

New York had done much to check transport noise in that city; and if he would have a similar body appointed here.—Mr. OLIVER STANLEY replied: I have no information as to the steps taken by this committee, but I am making inquiries and will then consider whether there is any further action which could usefully be taken.

Mr. LOVAT-FRASER asked the Minister of Transport how many cases of enforcement had taken place during 1932 under the regulations forbidding the use of motor-cycles which were not fitted with silencers.—Sir J. GILMOUR (Home Secretary) replied: I regret that I cannot give the information asked for, as the returns made by the police for purposes of the annual return of motoring offences do not distinguish between motor-cycles and other motor vehicles in respect of noise offences.

Mr. LOVAT-FRASER asked the Home Secretary if he was aware that, on the adjournment of the Committee on Traffic Noises *sine die* about three years ago, Sir Henry Maybury, the chairman, promised that the Ministry would refer the question of evolving a standard motor horn, which should be at once effective and less injurious to the health and nerves of the community, to the committee of research; and whether anything had been done with regard to this.—Mr. OLIVER STANLEY replied: Inquiries were made from the National Physical Laboratory, and the conclusion was reached that further expenditure on experiments directed towards the production of a standard type of motor horn was not likely to be useful in results.

Hours of Labour

Mr. LINDSAY asked the Prime Minister whether the question of the reduction of hours of labour would be considered by the World Economic Conference.—Mr. MACDONALD replied: As my hon. friend is probably aware, this subject has been under consideration by the International Labour Organisation, and I cannot say at present whether or in what form it may come before the World Economic Conference. It is not included in the Draft Agenda prepared by the Preparatory Committee of Exports.

Powers of Coroners

Lieut.-Colonel MOORE asked the Home Secretary whether he intended introducing legislation with a view to revising the powers of coroners.—Mr. HACKING (Under Secretary for Home Affairs) replied: My right hon. friend does not contemplate any such legislation.

THURSDAY, MARCH 2ND

Census Returns

Mr. MCGOVERN asked the Minister of Health when the completed Returns of the Census taken in 1931 would become available; and what were the reasons for the delay in the publication of the figures.—Sir E. HILTON YOUNG replied: It is expected that publication of the County Report series for the census of England and Wales will be completed in June next. A series of subject and summary volumes will follow, the issue of which should be completed early next year. As regards the latter part of the question, I am not aware of any delay, since both the estimated rate of progress and that already realised compare favourably with the experience of previous censuses and, I am advised, of other countries.

Certified Milk

Captain MCEWEN asked the Minister of Health whether he was now in a position to alter the requirement of the Ministry whereby it was laid down that the date of production must be stated on the caps of all bottles of certified milk.—Sir E. HILTON YOUNG replied: This matter has not been lost sight of, but pending decisions on certain wider questions of policy I cannot at present undertake to consider altering the relevant requirements of the Milk (Special Designations) Order, 1923.

Maternity and Child Welfare

Mr. PRICE asked the Minister of Health whether his attention had been drawn to the decision of the Cornwall public health committee to reduce the number of health visitors from 11 to 9, combining their work with that of inspectors of midwives; and whether, in view of the fact that he had on more than one occasion pointed out to this authority that the medical and clerical staff employed by it on the public health work of the county was insufficient and did not provide proper maternity and child welfare services, he would state what steps he intended to take.—Sir E. HILTON YOUNG replied: I do not find that my attention has been previously drawn to this matter, but I am causing inquiries to be made of the Cornwall county council in regard to it.

Disease among Milch Cattle

Sir GIFFORD FOX asked the Prime Minister by what approximate date the committee which was examining the question of disease among milch cattle would issue its report.—Mr. MACDONALD replied: The committee are still engaged in taking oral evidence, and in view of the large number of difficult questions embraced in their terms of reference and the important interests likely to be affected by their recommendations, I do not anticipate that they will be in a position to submit their report for some time.

Hours of Work Convention

Captain PETER MACDONALD asked the Minister of Labour how many nations had now ratified the hours-of-work convention put forward by the International Labour Office.—Sir H. BETTERTON replied: The Washington Convention on hours of work in industrial undertakings has been ratified by 11 countries; four other countries have undertaken to ratify when others do so. The following is the list:—Washington Hours Convention ratified by: Belgium, Bulgaria, Chile, Czechoslovakia, Greece, India,[1] Lithuania, Luxemburg, Portugal, Rumania, and Spain. Ratification with conditional or delayed application: Austria, France, Italy, and Latvia.

MONDAY, MARCH 6TH

Reconditioning of Slums

Captain CAZALET asked the Minister of Health whether he was able to announce the terms of reference and composition of the departmental committee to be set up with regard to the reconditioning of slums and other matters.—Sir E. HILTON YOUNG (Minister of Health) replied: The terms of reference to the committee will be as follows: To consider and report (*a*) what, if any, further steps are necessary or desirable to secure the maintenance of a proper standard of fitness for human habitation in working-class houses which are neither situate in an area suitable for clearance under Part I. of the Housing Act, 1930, nor suitable for demolition under Section 19 of that Act; and (*b*) what, if any, further steps are necessary or desirable to promote the supply of houses for the working classes without public charge, through the agency of public utility societies or other bodies subject to similar limitations operating in particular areas or otherwise. Lord Moyne has consented to act as chairman of the committee, and the other members will be Sir Francis Dyke Acland, M.P., Major J. W. Hills, M.P., Sir Charles Barrie, M.P., Sir Geoffrey Ellis, M.P., Sir V. Henderson, M.P., Miss F. Horsbrugh, M.P., Mr. N. K. Lindsay, M.P., Major G. Lloyd George, M.P., and Dr. J. V. Worthington, M.P.

Use of Pensions Hospitals

Mr. DONNER asked the Minister of Pensions what was the policy of the Ministry with regard to utilising hospitals under their control or, alternatively, transferring patients to civil hospitals as a measure of economy.—Major TRYON replied: It is the policy of the Ministry to utilise civil hospitals in preference to duplicating existing facilities so far, but only so far, as this practice is consistent with the interests of ex-Service patients for whom the Ministry is responsible. Ministry hospitals are provided for various special types of case for which either civil institutions do not provide, or which can be more suitably dealt with in Ministry institutions. With the decline in demand for treatment some of the Ministry hospitals have necessarily had to be dispensed with, but my hon. friend may rest assured that special accommodation will continue to be provided so long as it is needed.

Mr. DONNER asked the Minister of Pensions the intentions of the Ministry with regard to Maghull Hospital, near Liverpool; and whether any patients were to be transferred to any other hospitals.—Major TRYON replied: The accommodation provided at Maghull, near Liverpool, which is Crown property and has been used for the treatment of severe cases of epilepsy, has become increasingly in excess of the requirements of my Department, and the institution is required by the Board of Control who are in a position to use it more advantageously for their own cases. I have accordingly arranged for the transfer of the patients now at Maghull, along with the medical nursing staff, to Chepstow, another Ministry hospital of more suitable size where equivalent accommodation will be provided.

Mr. DONNER asked if it was the case that there was no truth in the suggestions that the Minister of Pensions was trying to get all these patients out of Ministry of Pensions hospitals.

Major TRYON replied in the negative. He said that those patients were being transferred from one Ministry of Pensions hospital to another Ministry of Pensions hospital.

Mr. HALL-CAIN asked the Minister of Pensions how many patients for whom he was responsible were at present being treated for war disabilities in civil hospitals in Liverpool; and what amount of accommodation existed in Mossley

[1] 60 hours not 40, applicable only to certain categories of workers.

Hill Hospital.—Major TRYON replied: No patients for whom the Ministry is responsible are at present being treated in any Liverpool civil hospital for their accepted war disabilities. Patients requiring institutional treatment in Liverpool are ordinarily sent to the Ministry hospital at Mossley Hill, which has accommodation of 300 beds, of which at present 255 are occupied.

Mr. BROCKLEBANK asked the Minister of Pensions what was the present policy of the Ministry with regard to the treatment in Liverpool of men whose minds were injured by war service; and whether in any cases such men had been transferred to lunatic asylums.—Major TRYON replied: There has been no change in the policy of the Ministry with regard to the treatment in Liverpool or anywhere else "of men whose minds were injured by war service." I have no authority to detain or treat in a Ministry institution a certified case of mental unsoundness, but my own policy and that of my predecessors has been to provide suitable treatment in special institutions for all cases of mental affection for which the Ministry is responsible, so long as they are not certifiable. As a matter of fact, during the past 12 months only one case had to be transferred in the Liverpool area to a mental hospital, and that was eight months ago. Any statement, such as I believe has recently been publicly made in Liverpool to the effect that the policy of the Ministry was, in the interests of economy, to transfer men from Ministry institutions to lunatic asylums is wholly untrue and can only cause needless anxiety.

Indian Medical Council Bill

Mr. RHYS DAVIES asked the Secretary of State for India what action the Government of India proposed to take in response to the representations from the Indian Medical Association with regard to the exclusion of Indian medical licentiates from the provisions of the Medical Council Bill.—Sir S. HOARE replied: I have not heard what action the Government of India propose to take. As the hon. Member is no doubt aware, the Indian Medical Council Bill has been referred to a Select Committee of the Legislative Assembly.

TUESDAY, MARCH 7TH

Medical Opinion and Disablement Pensions

Mr. HUTCHISON asked the Minister of Pensions whether his department would adopt the principle, in cases of difference of medical opinion over attributability of a disease to the Great War, of appointing an independent medical arbitrator to be agreed on by both sides in order to allay much existing bitterness.—Major TRYON replied: I could not, I fear, adopt my hon. friend's suggestion with due regard to my responsibility to Parliament. I would, however, remind my hon. friend of the present arrangements under which medical specialists of eminence, nominated by the Presidents of the Royal Colleges of Physicians and Surgeons, are invited by me to give their independent advice upon the merits of cases of late claim for disablement which present serious doubt or difficulty on the evidence.

Cost of Assistance to Ex-Service Men

Mr. LOUIS SMITH asked the Minister of Pensions what was the present total annual expenditure on assistance to those who served in the late war and to their dependants; what amount this represented per head of those who were killed and wounded; and how such amounts compared with similar expenditure in the United States of America.—Major TRYON replied: It is not possible to obtain comparable figures for the United Kingdom and the United States of America as to the expenditure on ex-Service men of the late war. In the United States of America all public expenditure on monetary benefits and on medical and other services for all classes of ex-Service men and their dependants, whether disabled by war service or otherwise, is administered through a single Department of State—the War Veterans' Bureau. In this country, on the other hand, in addition to the benefits administered by the Ministry of Pensions and the Service Departments, ex-Service men draw benefit, frequently on specially favourable terms, under the Health and Unemployment Insurance schemes, the Contributory and other Old Age Pensions Acts, and through other agencies, but the portion of the expenditure under these heads which is attributable to ex-Service men and their dependants cannot be distinguished.

THE SERVICES

DIRECTOR-GENERAL, ARMY MEDICAL SERVICES

THE War Office announces that the appointment of Lieutenant-General Sir Harold B. Fawcus, K.C.B., C.M.G., D.S.O., D.C.L., K.H.P., Director-General, Army Medical Services, has been extended for a period of one year from Sept. 16th, 1933.

ROYAL NAVAL MEDICAL SERVICE

Surg. Lts. J. B. Patrick and J. Johnston to be Surg. Lt.-Comdrs.

Surg. Lt. W. J. M. Sadler is transferred to the Permanent List.

C. J. Mullen and P. N. Walker-Taylor to be Surg. Lts.

The following appts. are notified: Surg. Comdr. E. L. Markham to *President*, for R.N. and R.M. Recruiting Headquarters. Surg. Lt.-Comdr. C. B. Fox to *Danae*. Surg. Lts. F. W. Chippindale to *Vindictive*; G. H. Sellars to *Renown* and to *Malaya*; H. O. O'Connor and E. A. Gerrard to *Victory*, for Haslar Hospital; S. J. Savage to *Pembroke*, for R.N.B., Chatham; and A. J. A. Gray to *Victory*, for R.N.B., Portsmouth.

ROYAL ARMY MEDICAL CORPS

Maj. W. H. Cornelius, half-pay list, is restd. to the estabt.

Lt. J. Taylor relinquishes his temp. commn.

G. L. McLeod to be Lt. (on prob.).

ARMY DENTAL CORPS

Lt.-Col. D. Blair, having attained the age for compulsory retirement, is placed on retd. pay.

Maj. A. R. Inglis to be Lt.-Col.

TERRITORIAL ARMY

Capt. W. W. MacNaught to be Maj.

Lt.-Col. W. H. Fisher, having attained the age limit, retires and retains his rank, with permission to wear the prescribed uniform.

Capt. G. W. Elkington resigns his commn.

INDIAN MEDICAL SERVICE

The undermentioned appts. are made: Capt. C. V. D. Rose, from R.A.M.C., to be Capt. B. A. Porritt, M. S. Purvis, F. W. Whiteman (and remains secd.), and M. E. Kirwan to be Lts. (on prob.).

ROYAL AIR FORCE

Flight Lt. M. T. O'Reilly is granted a permanent commission in this rank.

Wing Commander P. M. Keane is placed on the retired list.

COLONIAL MEDICAL SERVICE

Dr. A. W. H. Donaldson has been appointed Medical Officer in charge of the Medical Department, Somaliland; Dr. J. M. Gray, Health Officer, Hong-Kong; and Dr. H. North has been promoted to Senior Medical Officer, Nigeria.

INCOME OF PATIENTS AT GUY'S HOSPITAL.—At the end of 1931 the court of committees at Guy's Hospital authorised an inquiry into the means of in-patients, and their assessment on the main lines of the assessment in force in the local London County Council hospitals. Patients were to be informed that if they had been admitted to an L.C.C. hospital they would have been charged the amount of their assessment, and it was suggested that they might, if they wished, contribute an amount not less than they might have had to pay in an L.C.C. hospital. The analysis shows that the income of 95 per cent. of the 8232 patients interviewed in the wards was within the Hospital Savings Association limits—viz., £4 per week for a single person, £5 for a married couple without children, and £6 per week for a married couple with children—and of these 28½ per cent. had incomes up to £2 per week. These figures are held to refute the suggestion sometimes made that the poor have to go to L.C.C. hospitals because the voluntary hospitals are being utilised to a much greater extent for the lower middle classes. As a result of the assessment the actual contributions from patients in the wards have increased very little, but the contributions by the Hospital Savings Association have risen by over £2300. The more careful investigation into the means of in-patients has also produced contributions from provincial contributory schemes and public authorities, which show an increase of £1360 over 1931. The small additional charges made to out-patients since last April have resulted in an increase of £2350 over the amount received from out-patients in 1931. One effect of these charges has been to stimulate the production of vouchers from the Hospital Savings Association. Another effect is a 10 per cent. decrease in dispensary attendances. This is attributed to the fact that patients suffering from trivial complaints are now tending to avail themselves either of the services of their panel doctors, or are doing trifling dressings and treatment at home. The total receipts from in-patients and out-patients for 1932 amount to £39,887, and show an increase of £6700 over the total receipts of 1931.

MEDICAL NEWS

University of Oxford

Mr. R. L. Vollum, D.Phil., has been reappointed demonstrator in pathology; Dr. C. G. Douglas, F.R.S., demonstrator in general metabolism; and Dr. R. S. Creed, demonstrator in physiology. All these reappointments are for four years from Oct. 1st, 1933.

An election of two members of the board of the faculty of medicine, in place of Mr. E. L. Pearce Gould and Dr. J. J. Conybeare, who have served for three successive periods and are ineligible for re-election, will be held on June 2nd. The electorate consists of all Oxford graduates who are members of convocation. Nominations must be received before May 12th.

Society of Apothecaries of London

At recent examinations the following candidates were successful:—

Surgery.—J. Burden-Cooper, Univ. Coll. Hosp.; R. P. Huggins, Westminster Hosp.; W. W. B. Kelly Wiseham, Middlesex Hosp.; and A. W. Turner, St. Mary's Hosp.

Medicine.—M. Belo-Zercovsky, London Hosp.; J. A. Bull, Univ. of Toronto; J. Burden-Cooper, Univ. Coll. Hosp.; T. R. Hornby, Univ. of Manchester; V. L. Kahan, Univ. of Cambridge and London Hosp.; W. B. Mattar, St. Mary's Hosp.; T. E. Mitchell, Guy's Hosp.; J. T. Moohalaparackel, Queens Univ., Belfast; and L. Wailer, Guy's Hosp.

Forensic Medicine.—E. H. Antoniades, Royal Colleges, Edinburgh; J. G. Q. Brown, Guy's Hosp.; J. A. Bull, Univ. of Toronto; J. Burden-Cooper, Univ. Coll. Hosp.; L. A. Freeman, London Hosp.; T. R. Hornby, Univ. of Manchester; D. Kyle, Univ. of Cambridge and St. Mary's Hosp.; E. O'C. Parsons, Univ. of Sheffield and St. Bart.'s Hosp.; and F. H. Williams, Univ. of Sheffield.

Midwifery.—J. A. Bull, Univ. of Toronto; J. B. Frumin, Guy's Hosp.; E. C. Rowlands, St. George's Hosp.; J. A. van Rooyen, St. Bart.'s Hosp.; and C. E. Wetherall, Royal Free Hospital.

The following candidates, having completed the final examination, are granted the diploma of the society entitling them to practise medicine, surgery, and midwifery: J. A. Bull, D. Kyle, W. B. Mattar, and L. Wailer.

Royal Institute of Public Health

The annual Whitsuntide conference of the institute will be held this year at Eastbourne. The inaugural meeting will take place on Tuesday, May 30th, when Lord Leverhulme will deliver a presidential address on Public Health in Relation to Industry, and the next day the sections will meet to hear the addresses of their presidents. The section of state medicine and industrial hygiene are discussing the pure milk problem (opened by Dr. E. G. Annis), the principles and practice of health education (Dr. Arthur Massey). There will also be numbers of papers, including one by Sir Thomas Oliver on industrial welfare under existing conditions. Sir Josiah Stamp is to give a special address on the economic test of the limits of public health expenditure, and Prof. S. D. Adshead will open a discussion on the housing problem. In the section of women and children Dame Louise McIlroy, the president, will speak on a maternity service for patients of moderate means, and Sir Ewan Maclean will introduce a discussion on the rôle of the midwife in a national maternity service. A group of papers on the various aspects of the study and care of exceptional children forms part of the programme of this section, and Prof. Winifred Cullis is opening a discussion on biology as a basis for teaching sex hygiene to children. In the tuberculosis section Sir Pendrill Varrier-Jones will ask the question why tuberculosis is still a problem? There will also be discussions on the rehabilitation of the tuberculous cripple (Dame Agnes Hunt), on open-air hospital schools (Sir Henry Gauvain), and a third on radiology in pulmonary tuberculosis (Dr. W. Paton Philip). Dr. Ernst Brieger, Dr. R. H. Hazemann, and Mr. T. W. te Nuyl will describe the after-care work that is being done for the tuberculous in Germany, France, and Holland. The section of pathology will be addressed by Prof. Alexander Fleming, the president, on the trend of modern research in bacteriology, and its proceedings will include discussions on the centralisation of pathological laboratory service (opened by Dr. G. W. Goodhart) and on blood transfusion (Mr. Geoffrey Keynes). The section of hydrology and climatology will hold one discussion on Sir Gilbert Walker's presidential address on the importance of airs, waters, and places, and another on the relation of soil and climate to rheumatic disease. The usual receptions and ceremonies will be held in connexion with the congress. Apart from visits of instruction to places in the locality there will be pleasant opportunities of seeing some of the beauties of the coast. Anyone who is interested is invited to join the congress. The address of the institute is 23, Queen-square, London, W.C.

Royal Faculty of Physicians and Surgeons of Glasgow

At a meeting on March 7th Dr. Andrew James Hutton and Dr. John Dunbar were admitted Fellows of Faculty.

Royal College of Surgeons of England

A series of demonstrations of specimens in the museum of the College has begun and will be continued for the next fortnight. On Monday, March 13th, and Wednesday, the 15th, Mr. E. K. Martin will demonstrate Inflammatory Diseases of the Stomach and Duodenum, and on Friday, March 17th, Inflammatory Disease of the Cæcum and Appendix. On Monday, March 20th, Mr. C. E. Shattock will show specimens illustrating diseases of the kidneys, and on Friday, March 24th, specimens illustrating diseases of the testicle. The demonstrations will be at 5 P.M., and are open to all medical practitioners.

University of London

On Monday, Tuesday, and Wednesday, March 20th–22nd, at 4.30 P.M., Sir Arnold Theiler, formerly director of veterinary education and research in the Union of South Africa, will lecture at the Royal Veterinary College, Great College-street, Camden Town, London, N.W., on the Osteodystrophic Diseases of Domesticated Animals.

Royal Microscopical Society

A meeting of this society will be held in the Hastings Hall of B.M.A. House, Tavistock-square, London, W.C., on Wednesday, March 15th, at 5 for 5.30 P.M., when Dr. R. G. Canti will give a cinematograph demonstration of living tissue cells cultivated in vitro.

Irish Medical Schools and Graduates Association

The St. Patrick's day dinner of this association will be held at the Dorchester Hotel, Park-lane, on Friday, March 17th, at 7.30 P.M. The president, Dr. T. G. Moorhead, will be in the chair.

French Congress of Therapeutics

The first Congrès français de Thérapeutique will be held in Paris from Oct. 23rd to 25th, under the presidency of Dr. Loeper, professor of therapeutics in the Faculté de Médecine of Paris. Papers will be read on parenteral treatment of gastric ulcer; the association of remedies; the treatment of colibacillosis; the adrenalines; short waves in therapeutics; and the treatment of radiodermatitis. Inquiries should be addressed to the treasurer, Dr. G. Doin, 8, place de l'Odéon, Paris VI.

Dinner to Dr. Edward F. Stephenson

On the occasion of his retirement from office as chief medical officer of the Department of Local Government and Public Health of the Irish Free State, Dr. Edward F. Stephenson was recently entertained to dinner by the members of the Society of Medical Officers of Health of Ireland, who also presented him with an illuminated address. Dr. J. A. Harbison presided, and proposed the toast of Dr. Stephenson's health. He drew attention to the part Dr. Stephenson had taken in the development of a public health service in Ireland, and his courage and modern outlook in public health problems, as well as his encouragement of the medical officers of health. In addition to the members of the Society, among others present were the Lord Mayor of Dublin, the chairman of the General Council of County Councils, and Mr. E. P. McCarron, secretary of the Department of Local Government and Public Health.

New Nurses' Homes

The Princess Royal recently opened an extension of the district nurses' home at Holbeck, Leeds, to which several new rooms and many amenities have been added.—A nurses' home has been added to the Birmingham Children's Hospital, containing a separate bedroom for each of the 120 nurses. Each of the three floors of bedrooms has its distinctive colour. One floor is chiefly for the use of the night nurses, who have their own lounge and a small tea-kitchen. A concert and dance room is provided and there are one or two sitting-rooms into which a nurse can invite her friends of either sex; they can be reserved for any required time by making previous application. The nurses raised the cost.—Greatly improved accommodation for nurses at Whiston Sanatorium, Lancashire, has just been opened. Hitherto the nurses have been badly housed. Some of the rooms were dark and ill-ventilated, there was no recreation room, four maids shared a bedroom 16 ft. by 13 ft., and there was only one bathroom. There are now three bathrooms, eight new bedrooms have been provided, nurses and maids have separate sitting-rooms, and electric light has replaced gas.

BRITISH HEALTH RESORTS
CONFERENCE AT BATH

AT Bath last week-end Mr. DOUGLAS HACKING, M.P. (Under-Secretary for Home Affairs), presided over a conference including representatives of the British Health Resorts Association, the British Spas Federation, the Travel and Industrial Development Association of Great Britain and Ireland, the Conference of Health and Pleasure Resorts, the spa practitioners' group of the British Medical Association, and many of the coastal health resorts and spas. The MAYOR of BATH (Councillor Rhodes Cook) welcomed the delegates, and addresses were delivered on behalf of the various groups. A lively discussion followed, and the following resolution was unanimously passed :—

That this conference, convinced of the necessity for the coördination of effort on behalf of the British health resorts, strongly urges that the various organisations interested therein should, through their chairman or other representative, and their secretary, confer at an early date with a view to defining their respective functions and suggesting lines of coöperation.

In the course of the discussion Lord MESTON (chairman of the British Health Resorts Association) described the association's immediate objects as : (1) To obtain the most complete and scientific data of the curative and restorative values of the British health resorts—whether on the coast or moorland or spas ; this entailed the coöperation of the local authorities and medical experts and the establishment of local branches. (2) To coördinate and examine this information. (3) To issue it as an annual handbook for the benefit of all medical practitioners. Lieut.-Colonel R. H. ELLIOT, M.D. (chairman of the executive of the Association), spoke of the great undeveloped resources in the British health resorts. Medical men must of course send their patients where they could get most good, whether at home or abroad, but many people were unaware of the great advantages of our own country in this respect. Mr. L. A. DE L. MEREDITH, on behalf of the Travel and Industrial Development Association, gave some details of the work which was being done by them in making this country known overseas, through the press, by means of films (such as the one shown overnight at the reception), by broadcast talks, and in many other ways. By their constitution they were precluded from using their funds for advertising in this country. They were anxious to include in their overseas propaganda the medical case for the British health resorts, and for that they must have the help of the profession. Alderman KELYNGE ENGLAND (chairman of the British Spas Federation) described the objects of the Federation, established in 1917, and the new programme for bringing spa treatment within the reach of members of friendly societies and others who would otherwise be unable to afford it. The scheme provided for medical advice from a spa specialist, a complete course of spa treatment and accommodation, with board, in an approved hostel. Dr. C. W. BUCKLEY, speaking for the spa practitioners' group and the physical medicine group of the British Medical Association, emphasised the great field for preventive treatment at the health resort. Small places were often of great advantage, and it was in the interest of the State that facilities for treatment should be brought within the reach of all classes. Belgium, Holland, and the Scandinavian countries were practically without spas and visitors from these countries should be welcomed at our health resorts by those who spoke their own language.

The morning session was marked by the unanimous desire of the speakers that a united movement should be pressed forward without delay, to which expression was given in the above resolution.

In the afternoon session the medical case for a comprehensive development of the health resorts as a national whole was set forth. Sir HUMPHRY ROLLESTON, speaking on the Service of the Health Resorts to the Public, contrasted the subsidised spas of Europe with the British or individualised method, and stated that it was "obviously desirable to combine British initiative and individuality with more practical support and active encouragement from the Government, in order to develop in every direction the various resources and potentialities of our spas and health resorts, which so far had been somewhat neglected as a national asset." Sufficient attention had perhaps hardly been paid to the value of spas in the prevention of diseases, especially those prone to occur in or after middle life as the result of strain and worry. The cure should be open to the poor as well as to the rich. Dr. FORTESCUE FOX said that, with the growth of science and the increasing needs of crowded urban populations, new avenues of usefulness were opening for the health resorts. These calls could only be met by coördinated development. War-time experience had shown what a little organisation could do. On the continent large funds were available to keep the spas abreast of modern requirement and also—more important—State organisation and scientific guidance, special teaching, and official publicity. There was nothing so valuable to a health resort as the prestige of a national service. The health resorts, inland and on the coast, were the natural centres of physical medicine, which was now coming into its own. The mere care of the children on the coast was of national importance, and should be given much closer study. To meet the new demands on the health resorts and on those responsible for them three things were needed : a clear medical policy, organisation, and public support.

Mr. R. C. VAUGHAN bore witness to the many improvements effected in the British hotels, but they lay under serious difficulties, he said, because the hotel industry had no pity either from the Government or the local councils. A foreign hotel-keeper modernising his establishment applied for a rebate of taxation or even a government grant, as it was realised that his enterprise brought money into the country. In England improvements were heavily taxed and rated. The best hoteliers were most anxious to work with the doctors in providing necessary diets and conditions. Mr. K. W. C. GRAND referred to the pioneer work of the Great Western Railway in coöperating with the health resorts on their line in the matter of publicity, and the efforts of the British railways to perfect their service in speed and comfort.

Dr. ALFRED COX, secretary of the British Health Resorts Association, spoke warmly in support of the new movement, and Lieut.-Colonel W. BYAM, chairman of the advisory medical committee, in winding up the discussion, pointed out that up to date the expenses of the Association had been privately met, and appealed to the localities concerned for their generous support.

Mr. Leslie Paton has been elected an honorary member of the Hungarian Ophthalmological Society. He is already an honorary member of the French, Spanish-American, and Japanese Ophthalmological Societies.

Medical Diary

Information to be included in this column should reach us in proper form on Tuesday, and cannot appear if it reaches us later than the first post on Wednesday morning.

SOCIETIES

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.
TUESDAY, March 14th.—5 P.M., THERAPEUTICS AND PHARMACOLOGY. Short communications will be read by Dr. R. D. Lawrence and Dr. W. W. Payne. 8.30 P.M., PSYCHIATRY. Papers. Dr. E. A. Bennet and Dr. J. A. Hadfield: The Psychopathology of Sexual Perversions.
THURSDAY.—5 P.M., DERMATOLOGY. (Cases at 4 P.M.) Case. Dr. A. Cambell: 1. Unusual Case of Arsenical Dermatitis. Dr. Barber: 2. Case for Diagnosis. Dr. Sibley: 3. Pustular Psoriasis. Other cases will be shown. 8.30 P.M., NEUROLOGY AND PHYSICAL MEDICINE. Special Discussion. The Causation and Treatment of Interstitial Neuritis. Openers: Dr. Wilfred Harris and Dr. J. Purdon Martin, Neurology; Dr. M. B. Ray and Dr. J. Barnes Burt, Physical Medicine. Other speakers will take part.
FRIDAY.—8.15 P.M., OBSTETRICS AND GYNÆCOLOGY. Short communication. Mr. G. F. Gibberd: A Case of Concealed Accidental Hæmorrhage Associated with Spontaneous Complete Rupture of the Uterus. Papers. Mr. L. Carnac Rivett: Puerperal Sepsis—Reports of Cases at Queen Charlotte's Hospital. Mr. Carlton Oldfield and Mr. L. N. Pyrah: Some Observations on the Pathology, Diagnosis, and Treatment of Puerperal Peritonitis. 8.30 P.M., RADIOLOGY. Paper. Dr. R. E. Roberts and Mr. R. Watson Jones: Calcification and Ossification. Mr. Duncan Fitzwilliams and others will take part in the subsequent discussion. Members of the Section of Orthopædics are specially invited to attend the Meeting.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.
MONDAY, March 13th.—8.30 P.M., Discussion on Chronic Pancreatitis to be introduced by Mr. A. J. Walton, Sir W. H. Willcox, and Prof. E. C. Dodds.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.
THURSDAY, March 16th.—8.15 P.M. (at the Royal Army Medical College, Grosvenor-road, Millbank). The following amongst others will give Demonstrations:—Dr. Mary Andrews, Dr. G. M. Findlay, Drs. E. Hindle and Bruce White, Mr. B. Jobling, Dr. P. D. Johnson, Colonel Clayton Lane, Dr. G. Carmichael Low, Dr. R. D. Mackenzie, Colonel H. Marrian Perry, and Major H. J. Benstead, Mr. J. S. Steward, Prof. J. Gordon Thomson, and Prof. Warrington Yorke.

PADDINGTON MEDICAL SOCIETY.
TUESDAY, March 14th.—9 P.M. (at the Great Western Royal Hotel, Paddington), Mr. Leonard Phillips: The Place of the General Practitioner in the Practice of Midwifery.

NORTH LONDON MEDICAL AND CHIRURGICAL SOCIETY.
TUESDAY, March 14th.—9 P.M. (at St. Mary Islington Hospital), Dr. H. S. Burnell-Jones, Dr. Buckley Sharp, and Dr. Malcolm Manson: General, Special, and Public Practice.

BIOCHEMICAL SOCIETY.
FRIDAY, March 17th.—2.30 P.M. (at University College, Gower-street, London), Annual General Meeting. Communications.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W.
TUESDAY, March 14th.—5 P.M., Dr. Charles Newman: The Physiology of the Gall-bladder and its Functional Abnormalities. (Last Goulstonian lecture.)
THURSDAY.—5 P.M., Dr. Charles R. Box: On Complications of Specific Fevers. (First Lumleian lecture.)

ROYAL COLLEGE OF SURGEONS, Lincoln's Inn-fields, W.C.
MONDAY, March 13th, and following WEDNESDAY and FRIDAY.—5 P.M., Mr. E. K. Martin: Museum demonstrations of Inflammatory Conditions of Stomach, Duodenum, Cæcum, and Appendix.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole-street, W.
MONDAY, March 13th, to SATURDAY, March 18th.—MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square. Tues., 4 P.M., Practical Problems in Medicine and Surgery. Lecture by Dr. Philip Elman, on Recent Advances in Diagnosis and Treatment of Chronic Diseases of the Chest. (Free to Members and Associates of the Fellowship of Medicine.)—NATIONAL TEMPERANCE HOSPITAL, Hampstead-road, N.W. Evening M.R.C.P. Course. Mon. and Fri., at 8 P.M.—ROYAL WATERLOO HOSPITAL, Waterloo-road, S.E. Post-graduate Course in Medicine, Surgery, and Gynæcology. All day.—ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street, W. Post-graduate Course in Orthopædics. All day.—BRITISH RED CROSS CLINIC FOR RHEUMATISM, Petoplace, N.W. Evening Course in Rheumatism. Tues. and Thurs., at 8.30 P.M.—BETHLEM ROYAL HOSPITAL, Monk's Orchard, Eden Park, Beckenham, Kent. Course in Psychological Medicine. Tues. and Fri., at 11 A.M.—WEST END HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck-street, W. Post-graduate Course in Neurology. Daily at 5 P.M.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith-road, W.
MONDAY, March 13th.—10 A.M., Medical Wards, Skin Clinic. 11 A.M., Surgical Wards. 2 P.M., Surgical Wards, Gynæcological and Eye Clinics. 4 P.M., Lecture: Dr. Burnford: Febrile States.
TUESDAY.—10 A.M., Medical Wards. 11 A.M., Surgical Demonstration. 2 P.M., Throat Clinic. 4.15 P.M., Lecture: Mr. Roche: Growths of the Testicle.
WEDNESDAY.—10 A.M., Medical Wards, Children's Clinic. 2 P.M., Eye Clinic. 3.45 P.M., Venereal Diseases.
THURSDAY.—10 A.M., Neurological Clinic. 11.30 A.M., Fracture Demonstration. 2 P.M., Eye and Genito-urinary Clinics. 4.15 P.M., Lecture: Mr. Sinclair: Swellings in the Breast.
FRIDAY.—10 A.M., Skin Clinic. 12 noon, Lecture on Treatment. 2 P.M., Throat Clinic. 4.15 P.M., Lecture: Dr. Ironside: Diseases of the Nervous System.
SATURDAY.—10 A.M., Medical Wards, Children's Clinic. Surgical Wards. The lectures at 4.15 P.M. are open to all Medical Practitioners without fee.
DAILY.—2 P.M., Operations, Medical and Surgical Out-patients.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, W.C.
FRIDAY, March 17th.—4 P.M., Mr. C. Gill-Carey: Diagnosis of Sinusitis.

ST. PETER'S HOSPITAL FOR STONE, Henrietta-street, W.C.
WEDNESDAY, March 15th.—3 P.M., Mr. J. A. Andrews: Carcinoma of Prostate.

ST. MARK'S HOSPITAL, City-road, E.C.
THURSDAY, March 16th.—4 P.M., Mr. A. Baldwin: Some Painful Conditions About the Anus.

NATIONAL HOSPITAL, Queen-square, W.C.
MONDAY, March 13th.—2 P.M., Dr. Riddoch: Out-patient Clinic. 3.30 P.M., Dr. Hinds Howell: Vascular Diseases of the Nervous System.
TUESDAY.—2 P.M., Dr. Walshe: Out-patient Clinic. 3.30 P.M., Dr. Martin: Meningitis.
WEDNESDAY.—2 P.M., Dr. Martin: Out-patient Clinic. 3.30 P.M., Dr. James Collier: Clinical Demonstration.
THURSDAY.—2 P.M., Dr. Kinnier Wilson: Out-patient Clinic. 3.30 P.M., Dr. Riddoch: Heredo-familial Nervous Diseases.
FRIDAY.—2 P.M., Dr. Adie: Out-patient Clinic. 3.30 P.M., Dr. James Collier: Diseases due to Neurotoxins.

PRINCESS ELIZABETH OF YORK HOSPITAL FOR CHILDREN, Shadwell, E.
WEDNESDAY, March 15th.—3.30 P.M., Prof. Leonard Findlay and Mr. K. J. Acton Davis will give a demonstration on Medical and Surgical Aspects of Rickets.

LONDON JEWISH HOSPITAL, Stepney Green, E.
THURSDAY, March 16th.—4 P.M., Dr. Harold Avery: Diet and Treatment of Gastric Disorders.

NATIONAL COUNCIL FOR MENTAL HYGIENE.
WEDNESDAY, March 15th.—5.30 P.M. (at 11, Chandos-street, Cavendish-square, W.), Dr. G. Somerville: Superstition.

ROYAL NORTHERN GROUP OF HOSPITALS.
WEDNESDAY, March 15th.—3.15 P.M. (at the Royal Chest Hospital, City-road), Dr. H. E. Symes-Thompson: Demonstration of Cases in the Wards.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL, Denmark-hill, S.E.
THURSDAY, March 16th.—9 P.M., Dr. M. S. Thomson: Common Skin Diseases Often Missed.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, 49, Leicester-square, W.C.
TUESDAY, March 14th.—5 P.M., Dr. H. MacCormac: Malignant Growths of the Skin.
THURSDAY.—3 P.M., Dr. I. Muende: Pathology Demonstration.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL.
TUESDAY, March 14th.—5.30 P.M., Dr. C. Bruce Perry: Paper prepared by the late Dr. Carey Coombs on Thirty Years of Progress in the Study of Rheumatic Heart Disease.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ousley-road, Balham, S.W.
WEDNESDAY, March 15th.—4 P.M., Mr. E. T. C. Milligan: Hæmorrhoids.

ANCOATS HOSPITAL, Manchester.
THURSDAY, March 16th.—4.15 P.M., Mr. H. Platt: Common Disabilities of the Foot.

MANCHESTER ROYAL INFIRMARY.
TUESDAY, March 14th.—4.15 P.M., Mr. Geoffrey Jefferson: The Explanation and the Clinical Application of the Early Symptoms of Increased Intracranial Pressure.
FRIDAY.—4.15 P.M., Mr. C. Roberts: Demonstration of Surgical Cases.

ST. MARY'S HOSPITALS, Manchester.
FRIDAY, March 17th.—4.15 P.M. (at the Whitworth-street West Hospital), Post-graduate Lecture. Mr. Arnold Jones: Nasal Obstruction in Sucklings.

GLASGOW POST-GRADUATE LECTURES.
WEDNESDAY, March 15th.—4.15 P.M. (at the Ophthalmic Institution), Dr. H. W. Thomson: Eye Cases.

POST-GRADUATE COURSE ON VENEREAL DISEASES.—A course in modern methods in the diagnosis and treatment of venereal disease is being held at the municipal clinic, 155, Regent-road, Salford, at 2 P.M., on Fridays from March 10th. Particulars may be had from Lieut.-Colonel E. Tytler Burke, M.B., venereal diseases officer to the city of Salford.

NOTES, COMMENTS, AND ABSTRACTS

LOCAL AUTHORITIES AND VILLAGE SETTLEMENTS

By J. B. McDougall, M.D. Glasg., F.R.C.P., F.R.S. Edin.

MEDICAL DIRECTOR, BRITISH LEGION VILLAGE, PRESTON HALL, AYLESFORD, KENT

It is some fourteen years since the village settlement at Papworth was founded. During the period which has elapsed two further important additions have been made to the total strength of the village settlement movement in this country—one at Barrowmore Hall, in Cheshire, and the other at the British Legion village, Preston Hall, in Kent. Sir Pendrill Varrier-Jones, the creator of Papworth, was also the creator of Preston Hall in Kent; but in any account, however brief, of the early history of village settlement work the name of the late Dr. Stanley Tinker, the first director of Barrowmore Hall, can never be forgotten. I feel sure that his early death did much to retard the progress of the village settlement movement in this country.

The work of Sir Pendrill Varrier-Jones is well known throughout the world, and whatever criticisms may be levelled against village settlements there is unanimity in the view that the "Papworth experiment" has been a model of its kind and must always form the foundations upon which similar work must be built.

It may, however, be pertinent to ask: Why, in view of the declared success of Papworth, are there not more village settlements in Great Britain? I have been at a difficulty in answering this question when foreign visitors have come to Preston Hall, for a complete reply to the question must necessarily take into account the psychology of public health committees, the mechanism of local authority finance, and local industrial resources—points which are rarely appreciated to the full by visitors from other countries.

Difficulties of the Present System

At conferences and during private discussions with colleagues in the tuberculosis service in this country I have encountered the following criticisms:—

1. The difficulties in establishing new industries de novo, to be manned by sub-standard labour, are too numerous, especially in areas where the majority of the male population normally follow one particular industry—e.g., coal-mining in South Wales and Yorkshire.

2. Local authorities are no doubt prepared, subject to the approval of the Ministry of Health, to undertake the necessary capital expenditure, but it is the fear of possibly having to meet a large and recurrent annual loss on trading that is the most serious obstacle in the path of local authorities.

3. If the settlement is a success on the commercial side it could be so only by successful trading in competition with ratepayers, the majority of whom are resident within the administrative area of the authority; if a loss had to be met the subsidy would, under existing conditions, have to be paid—in part at least—from the rates.

4. The relative success of Papworth and Preston Hall has obscured the fact that there have been a number of schemes in different parts of the country which have not made the progress anticipated.

5. Substantial alterations in the present "block grant" system of budgeting would be necessary to enable local authorities to regard the sanatorium, industries, and estate as one account for the purposes of audit.

6. The total number of settlers at Papworth, Preston Hall, and Barrowmore Hall, the three largest settlements in the country, number approximately 325. Papworth has been in existence for some 14 years, Preston Hall for 7 years under the British Legion, and Barrowmore Hall for nearly 10 years. The total contribution of the village settlement to the anti-tuberculosis campaign is therefore almost negligible.

7. Unity of control is desirable in a village settlement, and there are few men trained in the complicated administration of a village settlement.

In reply to such criticisms as these I would say at once that I am in entire agreement with the view that local authorities are at a distinct disadvantage in embarking upon settlement work. And in the absence of greater experience than that which is available at Papworth, Preston Hall, and Barrowmore Hall it would, to say the least, be a risky proceeding for a local authority to begin with a preconceived idea of establishing a large village settlement. It is not, however, quite fair criticism to say that the contribution of the village settlement to the anti-tuberculosis campaign is insignificant merely because the combined contribution of the three existing village settlements is small, for there are several important factors involved over which the present village settlements have no control. The first of these is capital. All three organisations—the Cambridgeshire Tuberculosis Colony at Papworth, the British Legion at Preston Hall, and the East Lancashire Red Cross Society at Barrowmore Hall in Cheshire—are voluntary organisations, dependent to a large extent upon the generosity of the public for the capital at their disposal.

At Papworth and at Barrowmore Hall the financial resources are very limited, but at Preston Hall—the British Legion village, controlled by one of the largest voluntary organisations in the country—the position is different. There is not the slightest doubt that Preston Hall could expand by building more houses in the estate section for additional settlers and by increasing the scope of the existing workshops. As it is, growth has been multiplied by five in seven years, thanks to the soundness of the principles laid down by Sir Pendrill Varrier-Jones in 1925 when he first undertook the difficult task of reconstruction. And as a result of close contact with the work at Preston Hall from day to day during nearly six years I have no hesitation in saying that it would be practicable to add 12 to 15 settlers per annum to the British Legion village, whilst at the same time increasing the scope of the industries pari passu with the extension of the housing accommodation. What the ultimate size of the village would be no one can say. It might be better to have two villages, as at Papworth and Enham, each being steered on a similar course under a unified administration. But, so far as Preston Hall is concerned, I take the view that, the fundamentals having been established, the experimental stage having been passed, the industrial position having been made relatively stable, the British Legion must now ask for further assistance to come from local authorities and the Ministry of Health. The work of the British Legion for tuberculous ex-Service men at Preston Hall is merely one, and quite a small part, of the main functions of the British Legion; to expand Preston Hall indefinitely out of Poppy-day funds for the benefit of one class of disabled ex-Service men would not be in keeping with the professed ideals of the British Legion which has a much wider field to explore.

Suggested Scheme of Coöperation with Local Authorities

In a memorandum which I recently submitted to the council of management of Preston Hall, it was pointed out that at the present moment no fewer than 152 ex-patients are in residence in the British Legion village; 124 of these are living in houses in the village with their wives and families. The majority of these men, but for the scheme, would have returned to their local authorities and would have been reintroduced into the vicious cycle which we know only too well. The council of management of Preston Hall are of the opinion that at least one of the ways in which local authorities may become identified with settlement work is by coöperating on the medical side with existing settlements. I am advised that it would be impossible for local authorities to build houses with their own capital at Preston Hall, and to furnish a proportion of the capital

necessary for absorbing each man into the industries. The number of cases suitable for admission to the settlement at Preston Hall greatly exceeds the number of vacancies which we have to offer owing to present financial and industrial limitations. But at present there are no fewer than 30 cases from one county council area in the village settlement at Preston Hall; it is estimated that the capital expenditure involved in settling these men in houses and workshops is about £17,000, and so far no contribution of any kind has been asked for from this particular county council in connexion with the establishment of these men in the village.

Contribution of Local Authorities

It is further the view of the council of management of Preston Hall that one of the best methods of adding to the number of settlers in the village would be for local authorities who are not in a position to undertake the direct provision of such accommodation to make use of established village settlements which have passed beyond the experimental stage. With this end in view it is suggested that the local authority shall pay no part of the capital for housing or for the establishment of men in the industries, but that the authority shall pay the sum of £78 per annum in respect of married men with their wives and families and the sum of £52 per annum in respect of single men admitted to the settlement.

The amounts just mentioned are suggested as those which appear, on the information available, to be appropriate and it is submitted that these amounts compare favourably with the cost of maintaining tuberculous individuals from public assistance and other funds, and that they are considerably less than providing public assistance together with treatment for tuberculous adult males and for the tuberculous members of their families. The council of management of Preston Hall propose that this sum shall be allocated to a capital and general fund which, at their discretion, would provide for the extension of the industries and be available for the growth and welfare of the village generally.

The council of management would agree, in return for this contribution to the general fund, to let a house at a low rent (average rent is 8*s*. per week) to each man admitted and to supervise the man medically throughout the entire course of his stay as a settler at Preston Hall; they would also provide facilities for the medical supervision of his wife and children at no additional cost to the authority. Settlers who break down in health are either pensioners for tuberculosis or are non-pensioners. In cases of the former the local authority and the Ministry of Pensions would, as at present, be advised of the admission of pensioners to the sanatorium, and treatment charges for such cases are, of course, recoverable from the Ministry of Pensions in full. Non-pensioners would be admitted for treatment without extra charge to the local authority.

It is understood, of course, that men selected for settlement would be given work at Preston Hall at a reasonable wage.

Selection of Suitable Cases

Cases suitable for settlement would be selected by the medical director at Preston Hall from amongst the patients sent there for treatment by the officers on the tuberculosis staff of the local authority. So far as ex-Service men are concerned it is clear that most of the patients would be ex-Service men without pensions. Cases selected for admission to the village settlement would be subject to review from time to time by the tuberculosis officer of the local authority, in consultation with the medical director at Preston Hall. The authority could limit the length of stay in the settlement in any individual case.

It is of interest to know that where a death has occurred in the village settlement there has not, as a rule, been any difficulty in arranging for the widow and family to return to the district in which they originally resided, but the council of management of Preston Hall feels strongly that, in the event of a death occurring, the contribution to the general fund by the local authority should be reduced by 50 per cent. until such times as alternative arrangements are made for the widow and family to remove to the district from which the family originally came.

The proportion of cases likely to be admitted to the settlement and the probable duration of their stay in the settlement is a matter which is, under the scheme proposed, as much in the hands of local authorities as with the settlement itself. If, for example, very ill men are sent for treatment as potential colonists it follows that none would be admitted to the settlement, but if the type of case which is likely to respond to treatment is admitted then the settlement can absorb just as many men as there is capital availabe for expansion of the scheme as a whole. Under this scheme local authorities would have the privilege of having two, six, ten, or more settlers in the village, as they desire.

As has been said, the probable duration of settlement would rest with local authorities acting in consultation with the medical director of the settlement, each case being reviewed from year to year. In this way, an authority could calculate its commitment from the very beginning and be at liberty to expand or retract as time went on.

It is realised, of course, that during the present financial stringency any active steps by local authorities in the direction indicated are quite out of the question, but even medical men, especially those in administrative posts, must budget ahead and prepare for the future. It will not be until each existing village settlement is freed from the handicap of restricted capital expenditure that the true function of the village settlement will be appreciated. Then, and then only, shall we be in a position to determine with any degree of certainty its true rôle in the anti-tuberculosis campaign.

ANTIMONY POISONING FROM ENAMELLED VESSELS

SEVERAL outbreaks of antimony poisoning in this country of late years have been traced to the use of enamelled vessels of inferior quality for the preparation of acid drinks such as lemonade. Antimony oxide is widely used, in place of tin oxide, as an opacifying agent in the enamelling of hardware, and it is readily attacked and disintegrated by acid, with the result that the antimony goes into solution. A leaflet[1] just issued by the Ministry of Health describes three such outbreaks, all of them due to the preparation of lemonade in enamelled jugs or buckets. At Newcastle-upon-Tyne, in 1928, 70 employees of a large firm became ill, complaining of a burning sensation in the stomach, colic, nausea, vomiting, and collapse; the drink was made with lemonade crystals containing 18 per cent. of tartaric acid, and a tumblerful of the fluid contained grs. 1½ of antimony calculated as tartar emetic, the emetic dose being gr. ¼–1. At Folkestone, in 1929, 25 people were poisoned by lemonade made with fresh lemons in jugs whose enamel contained 9 per cent. of antimony oxide, and it is noteworthy that the jugs, when sold, bore labels saying "we guarantee all articles having this brand to be perfectly safe in use and free from any injurious substances." In the third outbreak, in a large London hospital last December, there were 65 cases of poisoning, and in some of them there was serious collapse. Here again the lemonade was made from fresh fruit. "It is the cheap low-grade enamels," the memorandum says, "that are the danger. These enamels are made from a mixture relatively low in silica content and are fired at a comparatively low temperature. They are not acid-proof and appear to be readily dissolved by citric, tartaric, acetic, and other acids present

[1] Antimony poisoning due to the use of Enamelled Vessels. Ministry of Health. Memo 117/Med. London: H.M. Stationery Office. 1933. 1*d*.

in foods. The antimony oxides disseminated throughout the enamel are thus exposed to the action of these acids and any trioxide present goes into solution."

ANGER IN CHILDREN

A COMPREHENSIVE study of the outstanding response in behaviour of both normal and abnormal children which reaches us from America [1] may be of little practical value to those in daily contact with difficult children. But Prof. Goodenough's inquiry provides useful data on the type of child-reaction which may become a problem in certain circumstances. The study was so arranged that the qualifications of the observers could be established and the conditions of observation rigidly adhered to. It was necessary at the outset to define the types of emotional response in children in order that the specific anger response could be defined and its field of operation determined. Age- and sex-incidence is considered as well as frequency, duration, and occasion. No moment in the life of the child was left unconsidered in relation to anger —i.e., sleep, enuresis, physical conditions, and everyday hygiene and habits. Thus all basic occasions for outbursts were studied in order that family and group factors could be given their proper weight. Pædiatricians and child psychiatrists will find the chapter on methods of control of some assistance. It is here, however, that the complexity and variability of the reaction is driven home to us. For however behaviourism may clarify our understanding of emotional response by simple statement of problems in terms of stimulus and response, the parent-child relationship in which, and through which, anger is most frequently expressed, is more complicated than the laboratory method makes it appear. Anger is an end-result and even then is a part of a tangled skein of emotions, the causes of which lie in the mixed feelings of the child towards its parents. The examples are more simple and convincing than most of those we meet with in practice.

Appointments

BLIGH, J. M., M.D., Ch.B. Liverp., has been appointed Medical Referee under the Workmen's Compensation Act for Liverpool County Court District.

COPEMAN, W. S. C., M.B., M.R.C.P. Lond., Assistant Physician (with charge of children), West London Hospital.

ELLIS, GWYNETH N., House Surgeon, Royal Hospital for Children, Bradford.

HARRIS, K. E., M.D., M.R.C.P. Lond., Physician to Out-patients, Royal Chest Hospital, City-road.

Putney Hospital: CROOK, E. A., M.Ch.Oxf., F.R.C.S. Eng., and MASSIE, G., M.S. Lond., F.R.C.S. Eng., Surgeons.

Vacancies

For further information refer to the advertisement columns

Aberdeen University.—Lecturer in Medicine. £400.

Aylesbury, Buckinghamshire County Council.—Asst. County M.O.H. and M.O.H. £800.

Barnstaple, North Devon Infirmary.—Res. M.O. At rate of £150.

Brighton, Royal Sussex County Hospital.—Cas. H.S. £120.

Burden Mental Research Trust, B.M.A. House, Tavistock-square, W.C.—Principal Investigator. £750.

Burnley Municipal Hospital.—Jun. Res. M.O. £150.

Bury Infirmary.—H.S. to Special Depts. At rate of £175.

Durham County Hospital.—H.S. £150.

East Ham Memorial Hospital, Shrewsbury-road, E.—H.P. At rate of £150. Also H.S. and Cas. O. At rate of £120.

Edinburgh City, Public Health Dept.—Sen. Asst. M.O. £600.

Evelina Hospital for Sick Children, Southwark, S.E.—Hon. Physician to the Skin Dept. Also H.S. At rate of £120.

Greenwich, Dreadnought Hospital.—H.P. and H.S. Each at rate of £110.

Hampstead General and N.W. London Hospital, Haverstock-hill, N.W.—Cas. Surg. O. for Out-patient Dept., Bayham-street. At rate of £100.

Harrogate, Royal Bath Hospital.—Res. M.O. At rate of £156.

Hospital of St. John and St. Elizabeth, 60, Grove End-road, N.W. Res. H.S. At rate of £75.

Hospital for Tropical Diseases, Endsleigh-gardens, W.C.—H.P. At rate of £120.

Hove Hospital, Sussex.—Res. M.O. £200.

Ilford, King George Hospital.—Hon. Surgeon.

Ipswich, East Suffolk and Ipswich Hospital.—H.S. £120.

Leeds, Herzl Moser Hospital, Leopold-street.—R.M.O. £200.

Leicester Royal Infirmary.—Two Cas. H.S.'s. Each £125.

Liverpool, Mill-road Infirmary.—Med. Supt. £1000.

Liverpool, Royal Southern Hospital.—Orthopædic H.S. Also M.O. to Special Depts. and Res. Anæsthetist. Each at rate of £60.

L.C.C. Consultant and Specialist Service.—Neurologists £2 12s. 6d. Anæsthetists £1 14s. per session. Radiologists £900.

London Hospital, E.—Paterson Research Scholar in Cardiac Dept. £400. Hon. Asst. Surgeon. Also First Asst. and Reg. to Ear, Nose and Throat Dept. £150.

London Lock Hospital, 283, Harrow-road, W.—Res. M.O. At rate of £175. Also Surg. Reg. £100.

London Lock Hospital, 91, Dean-street, W.—Res. M.O. At rate of £175.

Manchester, Ancoats Hospital.—Res. Surg. O. £200. Also Orthopædic H.S. At rate of £100.

Manchester Ear Hospital, Grosvenor-square, All Saints.—Res. H.S. £120.

Manchester Hospital for Consumption, &c.—Asst. M.O. for Crossley Sanatorium. £200.

Manchester, St. Mary's Hospitals.—Res. Surg. O. for High-street Hospital. £175. Also Two H.S.'s for Whitworth-street West Hospital. Each at rate of £50.

Manchester, Victoria Memorial Jewish Hospital.—Res. Surg. O. £200. Also Jun. H.S. and Res. M.O. Each at rate of £125.

Manchester, Withington Hospital.—Asst. M.O. £300.

Miller General Hospital, Greenwich-road, S.E.—H.P. £100.

Ministry of Health, Whitehall, S.W.—Vacancy on Medical Staff. £833.

Mitcham U.D.C.—Part-time M.O. At rate of £300.

Newcastle-upon-Tyne, Hospital for Sick Children.—H.P. Also Sen. and Jun. H.S. Each at rate of £100.

Newcastle-upon-Tyne, Royal Victoria Infirmary.—Hon. Physician.

Northwood, Mount Vernon Hospital.—Res. M.O. £250. Also Asst. for Radio-therapeutic Dept.

Nottingham General Hospital.—H.P. At rate of £150.

Oldham Royal Infirmary.—H.S. At rate of £175.

Paddington Hospital, Harrow-road, W.—M.O. £325.

Princess Beatrice Hospital, Richmond-road, Earl's Court, S.W.—Res. M.O. At rate of £110.

Princess Elizabeth of York Hospital for Children, Shadwell, E.—H.P. and Cas. O. Each £125.

Princess Louise Kensington Hospital for Children, St. Quintin-avenue, N. Kensington, W.—H.S. At rate of £75. Also Hon. Anæsthetist.

Queen Charlotte's Maternity Hospital, Marylebone-road, N.W. Asst. to Pædiatrician and M.O. to Infant Consultation Centre. 1½ gns. per Clinic.

Royal National Orthopædic Hospital, 234, Great Portland-street, W.—H.S. At rate of £150.

St. Leonards-on-Sea, Buchanan Hospital.—Sen. and Jun. H.S. At rate of £175 and £125 respectively.

St. Mary's Hospital, W.—Cas. H.S. At rate of £100.

St. Paul's Hospital for Diseases of the Genito-Urinary Organs and Skin, Endell-street, Holborn, W.C.—H.S. At rate of £150.

South Africa, Central Hospital, Bloemfontein.—Radiologist. £900.

Southend-on-Sea General Hospital.—Second H.S. £100.

South London Hospital for Women, Clapham-common, S.W.—H.P. and H.S. Each at rate of £100.

South Shields, Ingham Infirmary.—Jun. H.S. £150.

Stoke-on-Trent, North Staffordshire Royal Infirmary, Hartshill.—Asst. Hon. Surgeon.

Swansea General and Eye Hospital.—H.P. At rate of £140.

Wakefield, West Riding Mental Hospital.—Asst. M.O. £350.

Watford, Herts, Peace Memorial Hospital.—Two Res. Officers. Each at rate of £150.

West Bromwich and District General Hospital.—H.P. and Two Cas. H.S.'s. Each at rate of £200.

West London Hospital, Hammersmith-road, W.—H.P. Two H.S.'s to Spec. Depts. Also Res. Anæsthetist. Each at rate of £100.

Willesden General Hospital, N.W.—Res. Cas. O. At rate of £100.

Winchester, Royal Hampshire County Hospital.—H.P. At rate of £125.

Windsor, King Edward VII Hospital.—H.S. At rate of £100.

The Chief Inspector of Factories announces vacant appointments for Certifying Factory Surgeons at Brixworth, Northampton; and Heckington, Lincoln.

The Secretary of State for the Home Department gives notice that he is considering the appointment of a Medical Referee or Referees under the Workmen's Compensation Act for the following County Court Districts: West London (Circuit No. 37), Edmonton and Wood Green, Romford and Ilford (Circuit No. 38), Bow (Circuit No. 40), Willesden (Circuit No. 46), Waltham Abbey (Circuit No. 56). Applications should reach the Private Secretary, Home Office, Whitehall, London, S.W., not later than March 29th.

Vacancies are also announced at Halifax County Court District at Fort William Sheriff Court District (Argyll, &c.); and at Lochmaddy and Portree Sheriff Court Districts (Inverness, &c.).

Births, Marriages, and Deaths

BIRTHS

BEARE.—On Feb. 27th, at Deepdene Park-road, Dorking, the wife of C. E. Beare, M.B., F.R.C.S., of a daughter.

ROBERTSON.—On March 3rd, at Southgate-street, Winchester, the wife of Dr. Robertson, of a son.

DEATHS

HOBHOUSE.—On March 2nd, at Grosvenor-hill, S.W., Edmund Hobhouse, M.D., F.R.C.P., aged 72.

N.B.—A fee of 7s. 6d. is charged for the insertion of Notices of Births, Marriages, and Deaths

[1] Anger Responses in Young Children. By Florence L. Goodenough, professor in the Institute of Child Welfare, University of Minnesota. University of Minnesota Press Monograph. No. IX. Minneapolis. 1932. Pp. 278. 14s. 6d.